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ROYAL SOCIETY OF MEDICINE

(With Supplement: Notes on New Books)

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Balneological and Climatological Section.

January 14, 1915.

Dr. Septimus Sunderland, President of the Section, in the Chair.

DISCUSSION ON THE VALUE OF MEDICAL BATHS FOR INVALID SOLDIERS.

The President (Dr. Septimus Sunderland) stated that the Council of the Section were anxious to assist in the alleviation of the sufferings of their militant countrymen during the War. They were under the impression that many of the soldiers invalided from the Front, suffering from the effects of injuries, exposure to cold and wet, and the great nervous strain incident to military service, would receive much benefit from treatment at British health resorts.

In order to obtain some definite opinions from the Members of the Section they had arranged that this meeting should be devoted to a discussion on the subject, and hoped to be able to come to some definite decision.

The Value of Medical Baths for Invalid Soldiers.

By R. Fortescue Fox, M.D.

The treatment of wounded and invalid soldiers by means of climate and medical baths is a matter that closely concerns the Section of Balneology and Climatology. Our Section represents in this country a branch of medicine in the study and elucidation of which it has been engaged for twenty years. But I conceive that at the present time this is a subject that, outside the limits of the Section, must appeal to our colleagues the physicians and surgeons who are devoting themselves to the treatment of military cases in our hospitals. It concerns them because it supplements their work. And we have also reason to extend our view a little further, because so large unfortunately are, and will be, the numbers of sick and wounded, that the practical issues

arising out of the matter of this discussion will make their appeal to the public at large, and to those who are responsible for the public service.

The question has therefore a certain urgency, a little removed from the usual academic atmosphere of our meetings, and I gladly accede to the request of the Council to open its discussion on this the first available occasion.

In setting forth the value of medical baths for invalid soldiers, I shall rely upon a threefold argument: In the first place, historical evidence; secondly, the contemporary practice of other countries; and lastly and chiefly, the known facts as to the action and uses of baths which have afforded us in recent years the sure foundation of medical hydrology.

It is true that, like preventive medicine, the treatment of chronic disease is a comparatively tame affair. The after-treatment of the sick or wounded soldier presents but little opportunity for brilliant discovery or rapid results, such as the surgeon often achieves. Ours is by comparison a slow and tedious task, but if slow it is also needful. We know that after the most skilful hospital treatment for injury or illness in the field there is in many cases a prolonged period of convalescence, marked by chronic illness or disability. It is at this stage on the road to recovery that these remedial agencies, waters and baths in their various forms, and other kinds of physical treatment, will, under skilled and patient medical direction, give the best possible results. Indeed, our proposition is that without the scientific use of these agencies in the after-treatment of military cases the best results will not be obtained.

It is not surprising that upon the Continent, which has been so often ravaged by wars, this department of practice should have been studied and followed far more than in our own favoured country. And this is true not of recent times only, but from ancient days. It is interesting to notice that the greatest military Empire in history, that of Rome, fully appreciated the value and indeed the necessity of health resorts for its home and colonial populations. We have ample evidence of the fact that not only senators and officials, but the legionaries exhausted by campaigning, had recourse to the natural hot baths for periodical treatment and rest. Wherever thermal springs were found bath establishments were maintained by the government with great care throughout the Empire—in Italy, Northern Africa, Egypt, Gaul, Germania, Syria, and Britain. At the sites of many of these baths inscriptions are still found testifying to their medical use by the military. Indeed, for six hundred years the Roman *thermæ*, *munera divum*, afforded one of the chief means of medical aid to all classes, both

for the prevention and the cure of disease [5]. Many of the Roman baths have been irretrievably lost; many were subsequently rediscovered and restored by the Mahommedans; many remain and have been in continuous use for two thousand years.

In some Continental countries, as in Italy, the employment of bath treatments for the military has been traditional almost from the Roman period. At the present time there is in many of them an organised system under government direction. The machinery, according to my information, is somewhat different in the different countries.

France.

In France (1) the large military hospitals and (2) the *hôpitaux militarisés* (that is, civil hospitals used for the reception of military patients) include, in each case, special establishments for the reception of military patients at certain selected watering-places and health resorts. These are known as *hôpitaux d'eaux minérales* and *établissements civils d'eaux minérales* respectively. This branch of the military hospital service is regarded as an essential part of the organisation for the after-treatment of soldiers in France. Out of the thirty-three permanent French military hospitals, three are situated at health resorts—viz., that of Vichy with 212 beds, that of Barèges with 225 beds, and that of Amélie-les-Bains with 418 beds. Among the 216 hospitals described as *mixtes* or *militarisés* are included bath hospitals at the well-known spas, Plombières, Bourbon-l'Archambault, and Bourbonne-les-Bains, as well as others at climatic resorts such as Nice, La Rochelle, Dunquerque, and Dieppe. In Algeria and Tunisia there are the military establishments of Hammam R'hira, with 50 beds, and Hammam Lif. It will be noted that some of these hospitals have been set up at the seaside as summer resorts, and that others, like those at Nice and Marseilles, have a winter season but are available throughout the year.

A few particulars of the French *hôpitaux thermales militarisés* may be of interest.

Barèges is a mountain spa at an elevation of 4,000 ft., in the Pyrenees. The waters are thermal and sulphided, containing a glairy organic substance—"*barégine*"—and have enjoyed for three hundred years a reputation for old gunshot and other wounds and painful cicatrices. The thermal baths, like the semi-alpine climate, are stimulating and "excitant," and are taken in vast piscines or bathing-pools, in flowing water at 99° F.

Eaux Bonnes is another of the group of sulphur spas in the Pyrenees. The old name, *Eaux des Arquebusades*, was given to it after the Béarnese soldiers wounded in the battle of Pavia (1525), who resorted thither to be cured [6].

Bourbonne-les-Bains, in the Vosges, is a hot spring, feebly muriated and calcareous. Dr. Martin tells me that it has been a resort for wounded soldiers for centuries, and the baths are considered good both for rheumatism and for wounds. The hôpital militarisé at Bourbonne has more than 300 beds, and is fitted with a modern equipment for the baths, as well as for massage, hydrotherapy and mechanotherapy.

Hammam R'hira, in Algeria, is an old Roman station, with hot calcareous waters, closely resembling in constitution and temperature a sister Roman station, the English Bath.

I have been fortunate enough to obtain some particulars of the Algerian military bath hospitals, which will be of interest to the Section. Upon the conquest of Algeria by the French in the fourth decade of last century, they found here and there some dilapidated but still massive bathing-pools or *piscinæ* of the Roman age. It occurred to the French military doctors, familiar with the historical practice in France, to use the thermal waters of Algeria for treating the sequelæ of wounds, and for the anæmia and debility in the soldiers, which resulted from climate, or from fever and the fatigue of war. The engineers were accordingly directed to restore the Roman baths. The *piscinæ* were again excavated, made good and fenced in, and at several of the ancient hot springs a kind of camp was organised where the officials and the sick lodged together in tents. The results following these simple means were so good that a few years later the military authorities decided to erect regular establishments, of which the first in date was that of *Hammam Meskoutin*, founded by the Médecin-inspecteur Bégin in 1843. Complete statistics of the cases treated at Hammam Meskoutin, including diagnosis and results, were kept from the beginning, and case-records of about 2,000 cases have been preserved [2].

It is probable that these figures may be accepted as fairly representing the treatment of medical and surgical military cases at thermal baths. Rheumatism accounts for nearly half the total, or 904 cases, including both the civil and military, rheumatic affections being common in Algeria. Of these, 789 were cured or relieved by the baths. The next group is exclusively military, 509 cases resulting from traumatic lesion. These comprise unhealthy or adherent cicatrix, nerve pains,

muscular atrophy, bony deformation, articular and peri-articular effusions — all following gunshot wounds — also fractures, dislocations, sprains, and other injuries. Of 283 cases resulting from gunshot wounds submitted to the baths, 225 were cured or relieved; of fractures, 90 out of 101; of dislocations, 10 out of 13; of sprains, 19 out of 23. At *Hammam R'hira* the military bath hospital is furnished with three piscines of moving water, also with bathrooms and douches, and has accommodation for fifty officers and men.

"The action of thermal waters," says Hanriot, "especially if sulphided or chlorided, is very powerful in traumatic lesions, and the natives of Algeria are well acquainted with the fact" [2]. It is an old opinion that some waters have a remarkable power in cicatricial cases, and sulphur waters have enjoyed this reputation for centuries. It is believed that compresses of sulphur water are as efficacious as baths. I may here remind you that in France cold water dressings were strongly advocated in surgery by the great Ambroise Paré as long ago as 1553; and that they were much employed by the army surgeons in the Napoleonic Wars. No doubt this early aseptic practice was a great improvement upon the less cleanly methods then in vogue.

Italy.

Italy is the chief inheritor of the Roman tradition, and for hundreds of years Italian physicians have been foremost in the advocacy of the rational employment of waters and climates. I need only refer to Savonarola, grandfather of the ill-fated prophet; to Baccius, of Venice, in the sixteenth century; to Giannini, of Milan, in the beginning of the nineteenth century; to Semmola, and Vinaj, and Maggiora, in our day. Professor Casciani, Lecturer on Medical Hydrology in the University of Rome, tells me that there are at present five military bath stations in Italy (*Stabilimenti Balneari Militari*)—namely, *Acqui* (160 beds), *Recoara* (60 beds), *Castellamare-di-Stabia*, on the Bay of Naples, and *Salsomaggiore* (30 beds), besides the hospital at *Ischia*, founded in 1875, with 120 beds. It is recorded that the baths of *Bormio* and *Abano* were used for soldiers in the sixth century.

I should add that in Italy, as in France, most of the great hospitals, civil as well as military, are equipped with appliances for hydrotherapy, that is, for baths at various temperatures, and for douches with and without massage, together with the ubiquitous electric light bath, so that in general physiotherapy is available in those countries for hospital patients,

including military cases, without recourse to the special treatment of the health resort. Consequently, many military patients in those countries obtain bath treatments during their stay in hospital.

A short reference to the procedure by which military cases are selected for treatment at the Italian health resorts may be not without interest. These establishments are open in the summer months, and the cure is divided into twenty-day periods, or *mute*. Lists of the cases recommended for treatment are made out in April and "forwarded to the administrative medical officer of the (territorial) division, who prepares a consolidated return, with remarks as to whether the case is suitable or not for undergoing a *muta* in the bathing establishment concerned. This goes to the War Office, and there a general roster of *mute* is prepared and issued to the army corps commanders for necessary action" [*vide infra*, 3]. As regards the cost of treatment, there is a scale of payments, ranging from one penny per day for privates to eight shillings for general officers. It should be added that both officers and men may be sent to any of the sea-bathing resorts (*bagni marini*) for similar twenty-day periods of cure, under local divisional arrangements.

Austria-Germany.

In Germany, in addition to the convalescent homes there are institutions (*Militär-Kuranstalten*) for special after-treatment. These are seventeen in number, and are distributed among various health resorts and watering-places in Germany. Among them may be mentioned the *Wilhelm-Heilanstalt*, which was established at *Wiesbaden* for wounded and sick officers and men after the wars of 1864 and 1866. Wiesbaden, as we know, has a warm salt water, but the establishment is also fitted for simple hydrotherapeutic and medico-mechanical treatment. At *Landeck* there is a similarly equipped *Militär-Kurhaus*, founded after the Danish campaign in 1864. *Teplitz-Schönau* in Bohemia is *par excellence* the "soldiers' spa" for Austria-Germany. The *Militär-Bade Institut* was founded by Friedrich Wilhelm III for the Prussian Army in 1825, with accommodation for three officers and fifty-six men. There are also separate establishments for the soldiers of Austria and of Saxony. The fame of these weakly mineralised thermal waters for wounds and injuries dates, like that of Eaux-Bonnes, from the experience after a single battle, the great Battle of Leipzig in 1813, after which large numbers of the wounded were brought to Teplitz for treatment. I should also mention the military bath hospital at *Nauheim*

(43 beds); and there are other establishments at *Driburg* (Westphalia), *Norderney*, *Suderode*, *Salzburg*, and elsewhere.

Austria-Hungary has military hospitals (*Militär-Heilanstalten in Kurörten*) at most of the medicinal spas. According to Surgeon-General Macpherson [3], to whose writings I am indebted for these notes, they are twelve in number—namely, two at *Baden*, near Vienna, and one at each of the following places: *Carlsbad*, *Teplitz-Schönau* (already referred to), *Hercules-Fürdo*, *Hof-Gastein*, *Pöstyen*, *Trencsin-Teplitz*, *Budapest*, *Topusco*, *Lipik*, and *Töplitz*. There is also for the Landwehr an establishment at *Esiz*.

Russia.

In Russia, according to the same authority, there are twenty-three army medical stations (*sanitarniya stantsii*) devoted to the treatment of sufferers from chronic disease and for special treatments at health resorts.

United States of America.

The Surgeon-General at Washington informs me that the United States Government maintains an Army and Navy General Hospital at Hot Springs, Arkansas, where suitable military cases obtain the natural baths and medical care at a nominal cost. These springs were reserved many years since by Act of Congress for the use of the State. This institution is at present the only one of its kind in America. The Commandant is good enough to tell me that it is complete in its hydrotherapeutic appliances, provision being made for all forms of baths, as well as for massage and temperature therapy. I am given to understand that all the larger general hospitals for the Army and Navy in the United States are equipped with a system of hydrotherapy.

Japan.

I am told that in Japan wounded soldiers have been sent to the warm salt springs of *Yamanaka* and *Atami*, and for rheumatism to the hot sand baths of *Beppu*.

British Empire.

The foregoing is a brief account of the Military Bath Hospitals in other countries. That ours is a peace-loving land is perhaps the reason why there is no such establishment in connexion with any of the British

waters, either in the three kingdoms or at the other hot springs of the Empire—whether in India, New Zealand, or elsewhere. Some of the British health resorts are well adapted for this purpose, and many years ago our Honorary President, Sir Hermann Weber, proposed the establishment of such a hospital at Bath. It is true that in most of the countries we have mentioned the thermal and other springs are the property of the State and not only the springs but even the great hospitals are State property. A government, like an individual, may well be more ready to utilise and develop its own resources than to perform the same service for private individuals, and medical opinion and authority are perhaps more readily focused upon therapeutic resources that are supported or recognised by the State. Those conditions for one reason or another have not hitherto existed in our country.

Conditions amenable to Bath Treatment.

We may, in conclusion, briefly refer to some of the varieties of chronic disease, both surgical and medical, that are likely to be met with in soldiers and sailors leaving our military hospitals, and which we believe to be, in the majority of cases, amenable to bath treatment.

For an account of the known reactions of the body in various conditions of disorder and disease to medical baths, reference must be made to works upon hydrology. It must suffice to say here that these reactions have been recognised and defined with some precision, and that many of them follow with almost mathematical accuracy the slightest variation in the temperature, duration, or other characters of the bath. They can be invoked for the whole body or limited to particular parts. They can be varied and alternated at will, and made cumulative and more or less permanent by repetition. Like a ship's helm, these reactions respond to every movement of the steersman's hand. It will be conceded that bath treatments have therefore a potential both for good or evil, and that they require skill, not only in their choice, but in their administration.

Surgical Cases.

With reference to surgical cases, I may quote the summary in the French *Cliniques hydrologiques* [1]. In simple fracture it is held that consolidation of the bone and restoration of the limb may be accelerated by several months by the use of baths. In compound fractures, and

where osteitis and necrosis have occurred, certain baths, particularly some thermal and sulphur waters, seem to have the power, by modifying the nutrition of the part, to alter the suppurating surface and promote absorption of exudation and the discharge of *sequestræ*. In the case of fractures in the proximity of joints—for example, the knee—with stiffness following immobilisation, natural thermal baths at a temperature between 95° and 105° F. bring about decongestion of the tissues, and the re-absorption of peri-articular exudations, and at the same time counteract muscular atrophy and tendinous and articular stiffness. We may note here a familiar observation, that the movement of stiff and painful limbs, otherwise almost impossible, may often be performed with comparative ease in deep, hot baths. Long-continued baths at a somewhat lower temperature are employed not only for their general sedative effect, but to reduce œdema, relieve pain, and restore the local circulation.

It is a golden rule in hydrology that every kind of *thermal bath* is contra-indicated, not only in the presence of cardiac weakness, but also in febrile cases, and in acute or subacute or inflammatory conditions of all kinds; and that these baths, of which the heat is superior to that of the body, are applicable only in chronic disease, where the tissue reactions are defective and sluggish or perverted. It may often be observed in the history of a somewhat protracted case that there comes a moment when acute conditions have subsided and when a stimulating or thermal bath treatment is indicated, although previously inapplicable. Such stimulating measures would be injurious in the early stages of serious sprains, in peri-articular contusion, or in a traumatic arthritis or synovitis, in which it is above all necessary to allow the acute reactions to subside. But two or three months after the accident, should the pain and swelling persist, and muscular atrophy set in, salt or sulphur or thermal baths, according to individual conditions, together with massage, movements, and douches, have their proper and invaluable place.

The degree of heat to be employed in surgical cases needs careful consideration. We know that continued bathing at a moderate or sub-thermal temperature is by itself favourable to asepsis and to the cicatrisation of wounds. But higher or thermal temperatures may often be injurious, for example where, to quote again the French *Cliniques*, an unhealed cicatrix leads to an intermuscular sinus. On the other hand, these thermal temperatures, with or without douches and mechanical treatment, are helpful after many injuries—particularly for muscular and tendinous contractions; for nerve lesions, if the nerve

is not divided or has been reunited, and where motor, sensory, and trophic symptoms have resulted from contusion or concussion of nerves in dislocation of a joint or splintering of bone; and lastly for removing articular adhesions, if not of too long standing. The same authorities emphasise the importance, in surgical cases, of choosing not only appropriate local treatment, but a bath station which is well adapted to the general condition of the patient's health.

Rheumatism.

Rheumatic affections bulk largely in the health statistics of armies in times of peace, and the diagnosis "rheumatism" is quite as commonly used for those who are invalided in war. The conditions so designated are of course various, but sometimes appear to be analogous to what has been described as "fatigue fever," met with after extreme and long-continued physical exertion, as in forced marches, especially when the men are not fully trained. An excessive muscular metabolism causes in this condition an accumulation of waste products within the muscles, and a slight general septic intoxication, the symptoms being exhaustion and stiffness and acute pain on movement. If the muscular work is too greatly prolonged, what has been called "organic exhaustion" ensues, perhaps with cerebral disturbance [4].

In slighter cases immediate relief is obtained by stimulating the circulation in the muscles, and so sweeping away the waste products. A good example of this rapid cure of abnormal fatigue is the regulation hot bath after a day's hard deer-stalking in Scotland. We are told that at the Front hot baths are now greatly appreciated by men fatigued from duty. Even when the case is serious and of many weeks' duration, the judicious use of hyperthermal baths sometimes gives surprising relief.

Professor Russell, of Edinburgh, has recently given me a verbal account of some soldiers admitted under his care into the Royal Infirmary from the fighting line in France. Those men had been in the retreat from Mons and in the advance to the Aisne, and had been invalided on account of "rheumatism"; one of the men, who was in the Royal Field Artillery, was so ill before he left the Front that he had to be helped on to his horse, and when admitted to the infirmary seemed to have little power in his legs. All the men were very greatly and promptly relieved by a hot bath; the effect on the artilleryman was marked and immediate. The treatment in all the cases was curative.

The bath was taken as hot as the patient could bear it, and some ammonia was added to the water.

Painful synovitis in a single joint, especially the knee, appears to be common in those who have occupied cramped positions in the trenches. In others there are deposits and thickenings in the connective tissues, more or less generalised, to which the names "fibrositis" and "neuritis" are variously applied. All experienced spa physicians will agree that such cases, when the acute phase has passed away, furnish a large proportion of successes in their practice.

Nervous Disorders.

Finally, with reference to nervous disorders, to the prevalence of which among sufferers from the war there is too much evidence, we have a sure basis for the use of baths. It has been proved that treatments operating upon the surface of the body have a powerful influence not only upon the circulatory but upon the nervous system. Moreover, according to the procedure employed, it is within our power to obtain widely different, and indeed entirely opposite, results. For example, with a proper choice of temperature, one may stimulate and increase, locally or generally, a depressed nervous action. At another range of temperature one can, with equal readiness, mitigate and diminish an excessive action, and that is as regards temperature alone. It is not too much to say that functional disturbance in either direction is amenable to surface treatment.

It follows that in many nervous disorders stimulant or sedative baths, skilfully adjusted to the case in hand, can be suitably employed. Where a stimulant effect is desired, hot air and other thermal baths and douches are to be preferred; but where, as is now too often the case, a more profound exhaustion is shown by irritability, depression and insomnia, we can recommend the sedative type of bath, given at a lower range of temperature and often continued for a considerable time.

In chronic nervous diseases and disorders but little distinction can be drawn between military and civil cases. I will only add that the treatment of these affections forms an important chapter in hydrological medicine.

Taken together, the foregoing indications, medical and surgical, appear to my own mind to point to the conclusion that baths of one kind or another have a useful place in the treatment of military cases. One word as to locality. The treatment must surely be first of

all *in the hospital*, if and when such baths are to be found; secondly, *in the town*, where adequate baths and also means of transport are available; and, thirdly, in the last stage, *at the health resort*.

During the coming year many men will leave our hospitals free from acute trouble, but suffering from its results. Not a few will exhibit, in addition to their local injuries, the effects of physical and mental shock. They cannot be returned to their homes, or even to convalescent homes, without further relief. They will need not only patient and prolonged care, but the knowledge that something is being done for them. The appropriate remedies, both physical and psychical, belong especially to the health resorts, and it is the *raison d'être* of these places, when the acute illness has passed, to apply an after-treatment to the problems of incipient and chronic disease.

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DISCUSSION.

Dr. F. G. Thomson (Bath): I think the Section will agree that Dr. Fortescue Fox has been particularly happy in the selection of the subject of his paper. There could be no time more opportune than the present for discussion of the value of balneo-therapeutic and allied forms of treatment in the diseases and disabilities incidental to warfare. Whatever may be the outcome of the present War, one thing at least is quite certain—viz., that a large and increasing number of soldiers will be invalided home for rheumatism, fibrositis, and similar conditions, as the result of exposure to wet and cold, together with the severe strain incidental to modern warfare. As these are the particular conditions for which treatment by climate, baths and massage is peculiarly suitable, it would appear to be the duty of the country in general, and of this Society in particular, to see that the best possible use is made of such facilities as the health resorts of this country afford in the treatment of invalided soldiers.

Though no organisation has existed hitherto in this country to provide for the systematic use of baths and similar treatment for military purposes, it would appear, nevertheless, that soldiers of all

ages have visited our different health resorts in considerable numbers to get cured of the various diseases and disabilities incidental to warfare. Thus Bath appears to have been frequented by soldiers for curative purposes so far back as the time of the Roman occupation. Inscriptions still exist, engraved on tablets dedicated to Minerva, which commemorate the cure of Roman legionaries, who came long distances to undergo a course of baths. Among them, three appear to have come from York, three or four from Chester, and at least one from South Wales and Caerleon, respectively. The fact that these men undertook what was then a long, arduous, and probably dangerous journey from such places as York, Chester, and South Wales, indicates considerable and widespread faith on the part of the Roman soldier in such forms of treatment as Bath was then able to afford. Subsequent to the Roman occupation Bath suffered itself in no small degree the horrors and vicissitudes of warfare. The city was sacked, plundered, and burnt on various occasions, and the bathing establishment erected by the Romans was so effectually demolished that what little remained lay buried and forgotten for many hundreds of years.

It is not till the eighteenth century that we find further records of soldiers coming to Bath for treatment of diseases contracted in war. Since then every big campaign appears to have supplied its quota of military patients. The records of certain soldiers during the eighteenth century are interesting at the present time, as it is expressly stated that their diseases were due to lying on the cold, wet ground during the Flemish Wars. Of one soldier it is stated, that after twenty weeks in Guy's Hospital he was discharged as incurable, and invalided out of the Army. On admission to the Mineral Water Hospital (1758) "his joints, vertebræ, and sternum, upon motion or pressure might be heard or felt to crackle, as is usual in scorbutic habits."[1] After three months' treatment he had recovered, with the exception of some crackling of the right shoulder, and was eventully discharged "fit for His Majesty's Service."

In 1780, Nelson, then in his twenty-second year, was invalided to Bath to recover from the effects of an expedition to the West Indies. In February, 1781, he writes to his friend Captain Locker giving his experiences of the bath, and says that he is a "most docile patient." He says: "My health, thank God, is very nearly perfectly restored, and I have the perfect use of my limbs, except my left arm."[2]

Coming to more recent times, we find that during and immediately

[1] "Three Tracts on Bath Water," R. Charleton, M.D., 1774.

[2] "Historic Houses of Bath," Meehan, 1883.

after the South African War, 113 soldiers were admitted to the Mineral Water Hospital from Netley and other military hospitals. Of these, all but four were classified as rheumatism, arthritis, and sciatica. Ninety-nine were cured or relieved, eight were not benefited by treatment, and six were for various reasons discharged before their course of treatment was completed. Since the commencement of the present War we have had (up to January 15, 1915) ninety-seven soldiers in the Hospital, of whom just over one half were Belgians, and apart from hospital cases, I understand that over fifty officers (British and Belgian) have been sent to Bath for treatment.

As a result of general observation, supplemented by such special experience as the present War has afforded, I should say that the following classes of patients are those most suitable for treatment at Bath:—

(1) The various forms of arthritis, fibrositis, muscular rheumatism, sciatica, and lumbago.

(2) Wasting due to nerve lesions, where the nerve has either escaped section or been repaired by surgical measures.

(3) Traumatic neurasthenia.

(4) Stiffness, pain, and limitation of movement following on gunshot wounds affecting the joints or muscles.

I have been specially struck with the amount of stiffness and pain which follows simple clean bullet wounds through the muscles of the limbs, and the rapid improvement which follows appropriate treatment by douches, massage, and passive movements.

Speaking generally, the results of treatment of soldiers treated at Bath has been decidedly good. Cases of rheumatic pains due to exposure or to standing in wet trenches have responded more readily than cases of painful joints and muscles in which strain has been the primary factor. Patients suffering from nervous shock due to the near explosion of big shells have also recovered with surprising celerity. The recuperative power of Belgian soldiers appears, on the whole, to have been on a decidedly lower plane than in the case of our own men. This is probably due to their having suffered greater privation, and possibly to some extent to the mental depression incidental to the invasion of their country by the enemy.

I cannot help feeling that the military authorities have failed to take full advantage of such facilities for treatment as Bath affords. At the commencement of the War the City authorities placed the bathing establishment unreservedly at the disposal of the War Office for officers and soldiers invalided home from foreign service. The Committee of

the Mineral Water Hospital also offered the whole of their beds, and were prepared to increase their accommodation to take in 250 patients. Yet up to the present date (January 15) we have had altogether only about 100 cases from the British Army and about 70 or 80 Belgian soldiers. The reason for this is probably to be found in the fact that there is as yet no organisation for selecting and dispatching cases suitable for treatment at this and other health resorts. There must have occurred many hundreds of cases of pain, stiffness, muscular wasting, and limitation of movement, due to disease, injuries, and wounds, which would derive greater benefit from baths, massage, passive movements, and similar forms of treatment, than such treatment as they are likely to get in a surgical hospital.

The medical officers in charge of the big military base hospitals are probably so pre-occupied with the immediate necessities of the patients under their care that the question of after-treatment receives secondary consideration. Many of the cases of unwounded rheumatic soldiers which have come to us have been kept four, six, eight, or even ten weeks in hospital before they are sent to us. It has appeared to me that some real advantage would be gained by the appointment of physicians with some special knowledge of health resorts to pay periodical visits to the military base hospitals, with a view to the selection of cases suitable for removal to such places. The medical officers in charge of the hospitals would probably welcome such an arrangement as tending to clear their beds of less urgent cases, and the patients themselves would derive all the benefit to be obtained from more suitable treatment at the earliest time. The country in general would also be the gainer by any such measure as would promote the early return of the soldier to health and efficiency.

Dr. C. W. Buckley (Buxton) : The earliest evidence of the use of the Buxton mineral waters by military authorities appears to go back as far as the times of the Romans, since there were several Roman roads converging upon Buxton, traces of which still remain, and signs of a Roman camp having existed there. In addition, the remains of Roman baths have been found at various times: one was of timber lined with lead, another which measured 30 ft. long by 15 ft. wide was of brickwork and concrete. These remains were for the most part removed by enthusiastic improvers in the seventeenth and eighteenth centuries. It may reasonably be assumed that these baths were used by the military only, since the inaccessibility of the district at that period renders it very improbable that civilians would penetrate so far.

The earliest written records are of the Elizabethan period, and refer to the visits of Mary, Queen of Scots, between 1570 and 1583. This unfortunate monarch appears to have suffered much from rheumatism, probably of the fibrous variety. Eminent soldiers and statesmen were also visitors about the same time, notably, the Earl of Leicester, Lord Burleigh, and the Duke of Sussex. Beyond this, however, the records do not indicate that soldiers came to Buxton in any numbers at this period. The Devonshire Hospital has during many years past treated numbers of soldiers from Aldershot and other large military centres chiefly for sciatica and the later stages of rheumatic fever with marked success, while officers on furlough from India have formed a definite proportion of the annual visitors for the cure, suffering for the most part from the sequelæ of malaria and other tropical diseases.

Soon after the outbreak of the present war the Board of the Devonshire Hospital offered to the War Office one half of its beds for the treatment of soldiers, 150 altogether, and intimated that more would be provided if required. An independent Red Cross Hospital of 50 beds was also established. The municipal authorities in their turn offered free treatment at the mineral baths to any soldiers or sailors invalided on active service, an offer which was readily accepted by the War Office and the Admiralty, and which is being taken advantage of to an increasing extent. The cases which have been sent to Buxton hitherto may be divided into two classes: (1) Those convalescent from wounds, or at least sufficiently so to permit of them travelling thither without an ambulance train; (2) those suffering from rheumatism, sciatica, irritable or overstrained heart, synovitis, &c.

The first class do not receive bathing treatment, and therefore do not come within the scope of this discussion, with the exception of those cases in which stiff joints have resulted from the effect of the wound, and cases where nerves have been damaged by the passage of a bullet or other missile with consequently a varying degree of paralysis. Such cases benefit greatly from the proper use of the resources of a well-equipped spa. The methods adopted are massage, hot douching, electricity—either galvanism or faradism, or, in suitable cases, ionisation—and passive movement of stiff joints by various methods.

The second group are those in which mineral water and spa treatment are of the greatest service, and there is no doubt that if such cases were promptly sent from the base hospitals in this country to the spas they would make much more rapid recovery and the Army would be deprived of their services for a much shorter time than is now the

case. It is unnecessary to describe in detail the management of such cases as come under the head of rheumatism, fibrositis, sciatica, &c.; they are well understood by all spa practitioners. It does not follow, however, that any spa will do equally well. The indications for saline waters such as Droitwich, sulphur waters such as Harrogate and Llandrindod, and thermal radio-active waters like those of Bath and Buxton, differ widely and deserve careful consideration on the part of those authorities who have to distribute the cases of this second group. The cases of the first group will do equally well at any place possessing the necessary equipment. It would be a task well worthy of the members of this Section to endeavour to formulate clearly the indications for the different spas, and the result would be greatly to the advantage of the spas themselves as well as to patients, military or otherwise.

Fibrositis in its various forms appears to be the condition most frequently met with, resulting from damp and exposure. It yields to treatment promptly and completely as a rule. Recently I have seen a man, invalided out of the Army for severe fibrositis, who took advantage of his freedom to enter the Devonshire Hospital at Buxton forthwith, and there is every reason to expect that he will soon be fit again. Had the effect of spa treatment been tried before he was invalided he might still be serving, and I have no doubt there are many similar cases.

Cardiac cases are met with frequently among soldiers invalided home, the most important type being cases of irritable heart resulting from overstrain as usually seen in young soldiers. These react well as a rule to the Nauheim method of treatment combined with restricted exercises or graduated hill-climbing.

Synovitis from sprains is commonly met with and needs no comment. I have also seen several cases of injury to the foot from the wheel of a waggon or gun carriage passing over it, and flat foot is often the cause of the soldier falling out on the march and ultimately having to be sent home.

One case of injury without wound which came under my care is perhaps worthy of special mention. A bandsman in a Highland regiment who was carrying out his duties as a stretcher-bearer was captured by the enemy and tied up with several other men. His right arm was secured by a cord passed tightly several times round his forearm and that of his next neighbour. He complained of pain from its tightness and his captors forthwith tied it more tightly than before. When he came under my care six weeks later the hand was swollen

and œdematous; the muscles of the forearm were pulpy and powerless; he could not move his hand or wrist except in pronation and supination. He made a fair but slow recovery, but had lost his nerve to a great extent, and how far this will be regained is rather doubtful.

This loss of nerve is likely to bring many cases for spa treatment as the war goes on. Up to the present I have seen very few. We shall see more of them later, when having been cured of their wounds in the general hospitals the nervous symptoms come more prominently under notice. For such cases the quiet, well-ordered life of the spas will be of the greatest value, and the bracing climate of Buxton will, I anticipate, attract many. Hospitals are not generally suitable for cases of this kind. The value of hydriatic treatment of various kinds in such cases is very great; douches, sprays, long-continued warm baths and packs, all have their place and will, I feel confident, restore many a wrecked nervous system to health again. It will not surprise me if the value of military medical baths proves to be the greatest in these cases.

Surgeon-General M. W. Russell, D.D.G., A.M.S.: So far as the treatment by means of hydrotherapy of injuries and disabilities incurred by soldiers is concerned, the readers of the papers have been preaching to the converted, for the military medical authorities have long been aware of the virtues of such treatment, proof of which may be had from the many instances quoted in the papers read. You gentlemen here represent those who are most versed in the knowledge of balneological affairs and are fully aware of the peculiar properties of the many baths in Britain. It probably seems strange to you that so little use is made of them. If we look to the Continent we see there that the various medicinal spas are thoroughly well known and greatly frequented by the people. This is not so much the case in this country, and the only reason I can think of to account for this neglect is that the healing properties of the treatment afforded at our watering places are not sufficiently brought to the notice of the public and of the profession. To educate the former it is necessary that the latter should be well instructed, and perhaps without being disrespectful it may be said that the instruction of our profession in the use of the curative waters in our own island is not very fully developed. The Section is clearly the body best fitted to develop this instruction and to take up this question of education. Once the profession is convinced of the great value of the treatment to be obtained in our watering places these will be no longer neglected by the public. With reference to their use

in connexion with sick and wounded soldiers returned from the war, we are of opinion that the Section of Balneology and Climatology of the Royal Society of Medicine can render very material service, and I would venture to suggest that the Section, whose members are the acknowledged authorities on this subject, should form a Committee to codify and disseminate information with regard to the special treatment to be obtained at these centres. I would suggest that the Committee should draw up a list of baths in the British Isles giving, in each instance, the medicinal qualities and stating the particular diseases and disabilities for which each is suitable. This Committee might also ascertain what facilities exist and would be offered for the treatment of sick and wounded soldiers at each of the places mentioned. If some such authoritative information were placed at the disposal of the War Office it would be a simple matter to distribute it to the various military hospitals throughout the kingdom and to make arrangements for the transfer of suitable cases from these hospitals to the different watering places where special treatment could be afforded. A real service might be done for those soldiers who are likely to profit by this line of treatment for which opportunities now exist, but which opportunities are, unfortunately, not thoroughly known.

Dr. Preston King (Bath): Experience shows the marked benefit that follows the use of the thermal waters by those invalided home from the Front. Most of those who have used, and are using, the Bath waters are suffering from lumbago, sciatica and rheumatism brought on by cold and exposure—cases such as we have been accustomed to treat and relieve in the baths at all times, and their treatment presents nothing special in its features. Besides these we are treating with marked benefit many cases of injuries and stiff joints caused by wounds, fractures and contusions. In addition to all such I have seen many cases where the patients have been suffering from nervous symptoms as a result of the awful strain that they have been exposed to. The sedative influence of the waters combined with rest and quiet does much to restore sleep and relieve these cases.

Dr. W. P. Kennedy (Bath): I would like to record my impressions of rest and warmth immediately following thermal baths, in military cases, especially when invalided home from the Front. In men of strong physique, who can well tolerate frequent warm baths, it appears to me to have an enhanced value. Some few of our heroes, even

though they may not admit it, have had a long period of strain upon the nervous organism, and reserve power may be much lessened without the fact being patent either to themselves or to the observer. Yet close examination may reveal some symptoms pointing to such a condition of nervous alteration. Such patients take four or more thermal baths in the week and are ordered to remain one and a half or two hours in bed immediately after the pack. Though at first the inconvenience and trouble of lying up so often is irksome, the patients soon exhibit complete acquiescence, and even court and enjoy the exhilarating after-effects. One often finds, even among those who profess they never can sleep in the day, that after the first four or five baths the patient dozes during this rest, and also that his sleep at night becomes more profound, and that he sleeps longer at a time, and often confesses it to be more invigorating than hitherto. This plan of treatment seems especially useful in gouty subjects—and in those exhibiting the gouty diathesis, in whom cold extremities are often common. It is often a means of ameliorating this sense of chilliness, and the condition is improved for months subsequent to the course of baths. It appears to me that in these subjects there is a tendency to a retarded flow through the small arterioles, and stagnation in the capillaries and lymph spaces—consequently we get a lessened metabolism. The baths, aided by subsequent warmth, appear to relieve this condition, metabolism is stimulated, and the whole circulatory system tends to a general restoration of a higher reserve potentiality —thus producing a greater buoyancy and sense of well-being. The greater the amount of rest and sleep and the more profound these are, the greater the storage of reserve power, nervous, circulatory and assimilative. I have been struck by the fact that some men of high physical power, capable of great endurance and power of work, think they have weak hearts because of their cold feet and hands. Even where the rhythm, rate and apex beat of the heart are satisfactory, and the condition of the pulse normal — or only depart from the normal in a quite microscopic degree—the patients still suffer in this way. I look upon them as having some stagnation of the circulatory system in its peripheral parts. It *may* be labelled a weak circulation, but my experience is that oftentimes these men have a particularly *strong* heart, and that when you relieve the peripheral circulation you restore a good circulation, and this insures a complete restoration from coldness in the extremities. This experience makes me wish to impress the importance of rest and warmth as valuable auxiliaries following thermal bath treatment in such cases.

Balneological and Climatological Section.

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Dr. SEPTIMUS SUNDERLAND, President of the Section, in the Chair.

The Teutonic Health Resorts and their Substitutes.

By LEONARD WILLIAMS, M.D.

I DESIRE to make it clear at the outset that this paper is no mere contribution to the endeavour which is being made to capture German trade. Such would no doubt be a legitimate and even a laudable purpose: but the work would be one of supererogation, for it is quite certain that, rightly or wrongly, invalids from these islands will of their own accord refrain from visiting German watering places for many years to come, and it behoves us to be prepared to offer such people substitutes in France and Great Britain for the places to which they might otherwise be inclined to go.

And first of all let us examine into the causes which have secured for the enemy resorts that popularity to which they have undoubtedly attained. It cannot be pretended that these enemy resorts are possessed of climates so admirable or of waters so exceptional that they cannot be matched and even surpassed by stations within the zone of our sympathetic political interest. Neither can it be urged that what may be termed the handling of these climates and waters by the local medical men is so remarkably skilful as to cause the French and British spa physicians to bow their heads in becoming humility. Nor can it be truthfully suggested that the standard of comfort, the means of legitimate recreation, and the public hygiene, are more carefully studied in Germany and Austria than they are in France and at home. How, then, can we account for the vogue which these stations have enjoyed amongst the well-to-do British during the last forty years? There are two reasons. The first, and by no means the least important, is

historical. It is that they were first in the field. Ever since the day, in 1826, when Priessnitz, an ignorant Silesian peasant, organised his establishment at Graefenberg for the cure of all diseased conditions by cold water, and achieved for himself a perfectly phenomenal success, the profession in Austria was obliged to study his methods. It was due to Professor Winternitz and his pupils that these methods eventually found a scientific justification, and that consequently from about 1880 onwards the cult of baths and waters so spread over Austria and Germany that wherever a natural mineral spring was discovered, there would surely arise a well-equipped health resort with scientists to study its properties and disinterested people to advertise them. It was the success of the Austrian and German stations thus established which provoked the emulation of similar places in France and England. But the lead gained by the former has never been lost.

The second reason is essential in the Teutonic character. The Teutonic patient is docile, submissive, obedient. The militarism under which he has been born and in which he has been carefully nurtured teaches him these virtues. He no more dreams of disobeying his doctor than he dreams of flouting the drill-sergeant. Orders are given by the one in the same spirit and in much the same tones as those shouted by the other. In Germany, if you wish to be taken seriously you must raise your voice and roll your eyes. It is the cultured method, and the physician adopts it. He writes down in the minutest detail how the patient is to spend every quarter of an hour of his day, even to the number of respirations allowed per minute, and brandishes a minatory forefinger to punctuate the importance of each successive item. He signs the whole as though it were a military order. Is it any wonder that it is observed as such?

And, as the doctor, so is the health resort. Everything is minute, particular, exact, orderly, studied. All the patients do exactly the same thing at exactly the same hour in exactly the same way. The whole place is a model of military uniformity, a reflection in the mountains of the parade ground at Potsdam. As the *Times* expressed it in a wider sense, invalids are here blue-booked, tabulated, and inspected into health and happiness, whether they like it or not.

Now the superficial observer might easily conclude that such things would serve only to repel the French or British visitor. But they do not. They seem, on the contrary, to attract him. All patients, whether male or female, are feminine in the sense that they like to feel that they are being disciplined. Time does not hang heavily on the hands

of him who is doing what everyone else is doing. It is only when he is left to himself that he is bored.

It has scarcely ever fallen to my lot to suggest a British health resort to a patient without being met with the objection, "Oh, but I shall be bored to tears." To a similar suggestion concerning a French station the objection usually takes the form of a difficulty concerning the language. Very few French physicians speak English, and an English physician at a French health resort is a rare bird; and, on account of the almost insuperable difficulties placed in the way of English doctors qualifying to practise in France, he is rapidly becoming extinct. Parenthetically I may be allowed to suggest that the present is a suitable time for rectifying this anomaly. Against the Austrian or German health resort boredom is never urged, and, Germans being excellent linguists, the language difficulty never arises. The objection which is usually raised, if indeed an objection be raised at all, is that the cure is too strenuous, that it is in no sense a holiday, that the patient will come back more fatigued than when he set out, that an after-cure will probably be necessary. Such objections are easily overcome by a little diplomacy, whereas those which deal with boredom and the difficulties of language are generally insuperable.

Now this attitude of seriousness in what may be termed the ritual of their cure is one of the most powerful assets of the Teutonic health resorts. They do not, as we and the French are too apt to do, depend entirely upon their climates, their baths or their waters, but they study diet, exercise, recreation of mind, and the physiological effects of discipline. And not only do they study these things, but they prescribe and insist upon them, and even see that they are carried out. All this refers not only to the medical side of the station, but also to the social and commercial. The whole atmosphere is instinct with the "cure" and its details. If you are not a cure-guest, you are nobody. You might as well be a non-combatant in a besieged city. But if you are a cure-guest every attention is paid to you, every consideration is shown to you.

Contrast this with the atmosphere of a similar place in France or Britain. In France the centre of interest is the casino; in Britain, the golf links. In either country the cure is regarded as a harmless and rather unnecessary nuisance. You drink your waters apologetically, and submit yourself to the doucheur with indulgent incredulity. You so arrange the whole business that it shall interfere as little as possible with your general freedom, and you get it over as quickly as you can.

If there should happen to be any dietetic or alcoholic restrictions, you argue with your doctor and, with the eager co-operation of your wife and the *maître d'hôtel*, you disobey him on any and every pretext. In this matter the French resorts, while they have still much to learn from the German, are a great improvement on the British. The Englishman, even though he be an invalid, has a blind desire to go out and kill something himself, or see someone else kill something; when not so engaged he considers he is wasting his time. The Frenchman is not like that. *Il sait flâner.* He knows how to potter. He takes more interest in literature, the arts and the drama than he does in pigeon shooting, cricket, golf, and football, and will therefore content himself more readily than the Englishman in quiet and contemplative enterprise. A Frenchman who is told to walk is ready to do so at two miles an hour, chatting with a friend, and is quite willing to have the exact distance prescribed for him. He takes the air. The Englishman does not consider that he has had a walk unless he returns moist, footsore, and fatigued. He does not take the air; he takes exercise—and a whisky and soda.

It is said that the Frenchman boldly and blandly advertises his vices, whereas the Englishman hypocritically conceals his. If a malady be a vice, then the saying is certainly true. Even though you be a layman, Jacques Bonhomme will talk to you freely and volubly about his symptoms; whereas John Bull asserts through his clenched teeth that he has never had any. In France a chronic malady is a subject for commiseration; in England it is a matter for contempt. Acute disease may evoke sympathy—appendicitis has quite a royal flavour—but chronic disease, seldom or never. Even gout has ceased to be aristocratic. When it abandoned the acute great toe to wander destructive amongst the tissues it became not only protean but proletarian. For this reason it is impossible to get an Englishman, in England, to be seen at a table set apart for those undergoing a dietetic régime. He is not having any. He would rather starve at the ordinary tables, refusing each course with grim determination, than allow himself thus to be branded as an invalid. In France, dietetic tables and even dietetic institutes are eagerly and gratefully patronised. John Bull will fearlessly face temptation, and resist it—when he must. Jacques Bonhomme has the courage smilingly to recognise the wisdom of retreat.

I am not infrequently reproached for advising French resorts in preference to British, and I defend myself on the plea that better results

are obtained from abroad than are obtainable at home. This is no reflection upon the English spa physician; it is merely a tribute to the advantages of change; and so long as the characteristics, the habits and customs of the Latin race continue to differ fundamentally from those of the Anglo-Saxon, so long will these advantages be operative. For it is not only that the change itself is more complete, that the distance from domestic and business worries is greater, that your fellow-guests are more gracious and more amusing; but it is that the change in therapeutic methods is so decided that you are impelled to acquiesce in whatever is suggested for your benefit. A sense of unfamiliarity is conducive to discipline. The fear of the unknown is the promoter of wisdom. And not only so, for it cannot be denied that there is a something lacking in the atmosphere of even the best of our British health stations. What that something is I do not pretend to say. It may be that the word "enterprise" would express it. Certain it is that enterprise is by no means a conspicuous feature of the home stations in general. And yet it is not altogether a question of enterprise, for even in those British stations where intelligent enterprise has not been wanting (I know one only) the right note does not yet appear to have been reached. My friend Dr. Neville Wood has made a most patriotic and praiseworthy endeavour to attract foreigners to English resorts, but in spite of his industry, his tact, and his sincerity, I should be much surprised to learn that his persuasive piping had resulted in the arrival of more than a stray goose or two. When war broke out the birds of Paradise and the owls of wisdom had failed to find salvation: they still wandered in culture among the tents of the ungodly. The bald and brutal fact is that, with the exception of Bath, which occupies, not without distinction, the unique position of being the only winter thermal station in Northern Europe, the British resorts have nothing to offer which France does not supply, in quantity much greater, and in quality much superior.

In support of this depressing proposition and by way of example, I must be allowed to add one word. The only chalybeate spa of any consequence in England, Tunbridge Wells, is, from the point of view of its waters, altogether derelict. In anæmia and allied conditions it once enjoyed a great reputation, but this glory has departed, and it is now visited solely on account of its not inconsiderable climatic virtues. Of the sulphated mineral water stations which are so much frequented on the Continent we have two examples, Cheltenham and Leamington. The former is a potentiality in a state of animated suspense; the latter,

an actuality in a state of suspended animation. It would be easy to multiply such examples, but patriotism bids me forbear.

I now pass from the general to the particular, from this brief general survey to the detailed consideration of those Teutonic health resorts which have acquired a reputation in this country, and such substitutes as may be found for them in France and Britain. But I must premise what I have to say by reminding you that we must estimate the value of a station not so much by the chemical composition of its waters as by the clinical effects which experience has shown these waters to produce. It is a trite saying that, whatever the composition of their waters, all spas cater for gout and rheumatism, and a common remark that stations whose waters are chemically almost identical have successfully specialised in the treatment of very dissimilar complaints. I shall therefore be guided by considerations clinical rather than chemical.

The best known health resort in the civilised world is certainly Karlsbad. For our present purpose we may regard Karlsbad and its near neighbour Marienbad as one station. They are about equally famous, and they both cater for the same type of patient. In each case the natural mineral water is a purgative water, the chief ingredients being the sulphate and bicarbonate of sodium. At Karlsbad the water is hot; at Marienbad it is cold. The colder water is considered the more active.

To visit either of these famous stations in ordinary times was to be struck by the enormous number of extraordinarily fat people who frequent them. These people were not only fat but they were overfed; not only obese, but plethoric. Eliphaz the Temanite surely had a prophetic vision of the frequenters of the Schloss-brunnen or the Kreuzbrunnen when he spake to Job (chapter xv, 27) of him "that covereth his face with fatness and maketh collops of fat on his flanks." It might be said that this type of person is peculiar to the Teutonic peoples, and is the result of their refined and cultured dietetic habits, but such is not the case. There are overfed men and women in plenty both in this country and in France, and a great many of them have in the past found their way to Karlsbad and Marienbad. They did not as a rule go there for obesity. They went there to rest their fatigued and rebellious livers, to clear their loaded, distended and V-shaped colons, to relieve their kidneys of the burden of alimentary glycosuria, and to test the reputed power of the waters in dissolving hepatic concretions. The obesity was a minor matter, but owing to the dietetic and other

restrictions they could generally count on the disappearance of a collop or two.

Now the question which we have to decide is whether the suppression of these stations from the map of civilised Europe is therapeutically irremediable. The answer is an emphatic negative. In comparison with their rivals these places had the advantage of priority in the field, of powerful advocacy, and the distinction of royal and imperial patronage. But their results have never been any better than those to be obtained at two French stations, one which is justly famous; the other, most unjustly, comparatively obscure. The famous spa is Vichy. The waters of Vichy consist mainly of bicarbonate of soda. They contain no purgative salt. But the treatment of gastro-intestinal disorders at this station is just as successful as their treatment at Karlsbad and Marienbad, with this great advantage, that it is very much less debilitating, and therefore better suited to the numerous cases of gastro-hepatic complaints in which the heart is sympathetically affected. Nor do they neglect the collops at the French station. At the Austrian spas, bathing, massage, Zander exercises, and the like are very minor considerations. At Vichy, very special attention is paid to them, in a bathing establishment which for size, completeness and good order is second to none in the world. It is safe to say that there is not a case which has derived benefit from Karlsbad or Marienbad that would not derive equal and even greater benefit from a course of treatment at Vichy. Moreover, Vichy is one of the very few French spas where the language difficulty does not arise. There is at least one English physician, and several of the French physicians speak excellent English. Two of them have British qualifications.

Vichy is a substitute for another Teutonic station — namely, Neuenahr — in Rhenish Prussia, the only station in Germany with waters similar in composition to those of Vichy, than which they are much weaker. Neuenahr is not a very agreeable station, nor a particularly efficacious one. Clever advertising had, however, succeeded in obtaining for it some reputation in this country.

The other French substitute for Karlsbad and Marienbad is Brides-les-Bains. Though well known to and much appreciated by French physicians, in Great Britain its merits have been much overshadowed by the popularity of its Austrian rivals. It is situated in the Savoy Alps, close to the Italian frontier, and not very far from Aix-les-Bains. Its waters bear considerable resemblance to those of Marienbad inasmuch as they contain purgative salts and are very efficacious in all

those gastro-hepatic conditions associated with tardy metabolism which gain benefit from the Marienbad waters. The fat man is fairly conspicuous at Brides. I knew a lady who went there regularly every summer because, as she said, the other guests made her feel so slim and active. But the station does not depend only upon its waters, as taken internally. At the sister station of Salin-Mouliers, about a mile away down the valley, there is an admirable bathing establishment, where fairly strong effervescent brine baths may be obtained, and in the valley itself there are several walks, with the distances and gradients marked at intervals, where the patients can undergo the altogether admirable system of graduated walks, known as the "cure de terrain."[1] An additional advantage of Brides is its proximity to a high altitude station called Pralognon (4,600 ft.), where an after-cure may be taken in beautiful surroundings among the snows. Brides has been called "the French Karlsbad." "The French Marienbad" would be more correct. Its natural advantages are much greater than those of either of these places, and it is quite as accessible. If this station were to take full advantage of the opportunity offered by the existing state of affairs, it would in all probability become one of the most popular resorts in Europe.

Vichy and Brides-les-Bains afford very efficient substitutes not only for the two renowned Austrian spas but also for two almost equally famous spas which are essentially German. I refer to Homburg and Kissingen. It is very difficult to understand how Homburg and Kissingen acquired their reputations, but there is no doubt that they "arrived." Neither is there any doubt that latterly these reputations rested upon considerations which were social rather than medical. Both these places were admirably "run," but both were pleasure grounds rather than health stations. They catered for much the same type of invalid, the gouty abdominal, as Karlsbad and Marienbad. Of the two substitutes which I have mentioned, the pleasure-seeker will prefer Vichy; the plethoric, Brides.

The gout or rheumatism which takes the form of arthritic troubles is treated at a great number of Teutonic spas. Chief among them are Wiesbaden, Baden-Baden, and Kreuznach. Kreuznach, on account of the bromo-iodine contents of its waters, made rather a special point of treating gynæcological disorders, but it was in the main a gouty spa.

[1] The only place in this country where the "cure de terrain" appears to be available is Eastbourne, where they seem to have taken some trouble to perfect the system. It is being installed at Sidmouth.

These three were all exceedingly agreeable stations, a "cure" at any one of which might be trusted to produce good results. It is nevertheless difficult to understand how anyone could have preferred any of them to Aix-les-Bains, the station in France whose fame is known all over the civilised world. The treatment at Aix-les-Bains is by no means confined to the baths and the douche massage which bears its name. In the "source des Deux Reines" they possess a drinking water which rivals those which have made Contrexéville, Vittel and Evian famous, a water which is very active in ridding the system, via the kidneys, of the effete matters which have contributed to produce the arthritis, the myositis and fibrositis, for the relief of which patients seek this pleasant alpine station. For those who like gaiety, social amenities and distraction, in charming surroundings, there is no more acceptable prescription than a cure at Aix. As might be expected from its popularity with British and American invalids, Aix-les-Bains is another of the French spas where the language difficulty does not arise. At least two distinguished British physicians practise there, and many of the French physicians speak excellent English.

Aix-les-Bains has three rivals in this country, and if we could compare Bath, which is a winter station, with Aix, which is open only in the summer months, it would be necessary to say four. The other three are Harrogate, Buxton, and Llandrindod. All three are very good substitutes for the Homburg-Kissingen group, and also for the Wiesbaden, Kreuznach, Baden-Baden class of German station. But I hasten to add that there are very decided differences between them, not only in their climates and waters, but also in the types of invalid to whom each makes a special appeal. These I will try and indicate in passing.

It is not necessary for me to enter into a description of the famous Yorkshire spa. As a health resort it is well known to most English physicians, and the laity go there in large numbers not only for its baths and waters, but on account of its refreshing climate, its agreeable surroundings, and its engaging social atmosphere. Harrogate has shown more enterprise than any other English spa. Its waters have been very carefully and impartially studied, both chemically and clinically, by several very competent physicians, and the natural mineral resources have been generously supplemented by all the adjuncts to spa treatment, such as electricity, massage, and the like, which modern methods demand. It is difficult to say whether the waters as taken by the mouth or as externally applied are the more efficacious, but certain it is that the results of a course of treatment in

the gouty and submetabolised type of invalid are eminently satisfactory. In estimating the value of a health resort it is impossible to pay too much attention to the skill of the physician who is to be entrusted with the treatment of the patient. In this matter Harrogate has always been exceptionally fortunate, for there is no British spa, there is hardly, indeed, a single Continental station, where so much earnest, interesting, and illuminating work has issued from the pens of the practising physicians. Harrogate caters for every type of deficient metabolism. The water of the old well, most unpalatable as it is, must be credited with very special virtues as a stimulant of the liver. There are many other springs, in all about eighty, which vary considerably in their mineral contents, and thus afford a very wide choice of therapeutic resource. The bathing establishment is very completely equipped. There is scarcely any form of treatment — balneary, electrical, or mechanical—which cannot be obtained there, though there are doubtless certain of these forms which would be better applied elsewhere. In addition to the treatment of gouty and rheumatic states, a special feature is made at Harrogate of the treatment of cutaneous diseases and of circulatory troubles, especially such as have a gouty origin. No better substitute for a Teutonic gouty spa could anywhere be found than this pleasant station on the Yorkshire moors.

Nevertheless, Harrogate has a very serious competitor in Buxton. Buxton, in the Derbyshire hills, has an elevation of 1,000 ft. above sea-level, more than double that of Harrogate, which has only 400 ft. In this matter Llandrindod is between the two, with an altitude of 700 ft. The climate of Buxton is therefore conspicuously bracing, and being well sheltered on the north and east, the unduly keen winds are moderated. Buxton's reputation as a spa was originally based upon its good effects in rheumatism, gout, and allied conditions. During the last decade, however, a more careful study of its waters by the local physicians has enabled it to widen its claims and multiply its resources. It was found, for example, that analytically its waters bear a close resemblance to those of some French stations in the Vosges Mountains, notably Plombières and Contrexéville, and they have in consequence been used for the same purposes in a manner similar to that which obtains at these resorts. The installation for the Plombières treatment is very complete, and a large measure of deserved success has attended this comparative innovation. The analogy of the waters to those of Contrexéville has been utilised for the purpose of laying stress upon their diuretic action, a quality which in former days was regarded rather

as a side issue. So far from being still so regarded, this diuretic action is accorded a very high place in the success which the whole treatment may justly claim in the relief of gouty and rheumatic disorders, and Buxton may be said to be the British spa *par excellence* for a patient who suffers from defective elimination, as opposed to deficient metabolism. The bathing installation at Buxton is very complete, as complete, indeed, as any elsewhere to be found. For so-called rheumatic troubles, fibrositis, myalgia, rheumatoid arthritis, for the patient whose kidneys require flushing and whose blood requires cleansing, Buxton may be appealed to with every confidence. And it is pleasant to record that here, as at Harrogate, the practising physicians have taken their mission seriously and have added very materially to the stock of general knowledge on matters balneological.

Of Llandrindod Wells it may very justly be remarked that it is very much to its credit that it can claim to be placed in the same category with Harrogate and Buxton; for as compared with these it is a mushroom growth. Its climate certainly seems to enjoy some special features which render it particularly agreeable to those in health, and peculiarly suitable to the debilitated and neurasthenic type of invalid. The waters belong to the muriated or common salt group, which brings them into the same class with Wiesbaden, Kreuznach and Baden-Baden, while the presence of an appreciable quantity of sodium sulphate makes them comparable with Marienbad and Brides. At Llandrindod, therefore, we meet the fat man once more. He is perhaps a collop or so less conspicuous than his brother at Brides, or his cousin at Karlsbad, but he is there. And he is there, instead of at these others, partly because the treatment is milder, the waters are less mineralised, and it is not so far to go. The presence of common salt in mineral waters is said to render them more easily digested by the weak and debilitated, and this may explain the advantages which the atonic, rheumatic and gouty seem to find by a course of treatment at the Welsh spa. From the artistic standpoint the bathing establishments leave much to be desired, but the inside equipment and installations are excellent. All the kinds of baths which modern methods demand are well and carefully applied there. Llandrindod may look forward with confidence to attracting to itself many of those who formerly have visited the Teutonic spas which I have mentioned as clinically comparable to it, and such patients will have no reason whatever to complain of the efficacy of the treatment to which they will there be subjected.

When we pass from the stations which deal with what are called

the vices of general metabolism, such as gout and rheumatism, to the diseases of particular organs or systems in which certain spas have specialised, we find looming large in the survey the magic name of Nauheim. So large, indeed, does it loom that it seems to occupy not only the horizon, but the middle distance and the foreground, for it had somehow managed to make itself synonymous with all the diseases and disorders of the circulatory system. If it were possible to erect a monument to German commercial methods in matters medical, that monument would surely take the form of a pillar of salt drawn from the Grosse Sool Sprudel at Nauheim. To find a parallel to this instance of colossally successful bluff you must go back to Priessnitz himself. On a foundation of a little common salt and a large quantity of gas, verbal as well as physical, there was erected a superstructure imposing in its parts and profitable to the builder. By this I must not be understood to imply that Nauheim baths, whether natural or artificial, are entirely useless. They have, on the contrary, very definite merits in certain conditions of enfeeblement, especially of the right ventricular wall. And with the meteoric rise of Nauheim, it is extraordinary how prevalent such enfeeblement quickly and unexpectedly became. In a moment, in the twinkling of an eye, there occurred an epidemic of cardiac dilatation which, sparing the cottage of the poor and the houses of the bourgeois, penetrated with subtle selective insight into the palaces of the rich and influential. The families and even the valued dependants of the millionaire displayed a curious and inexplicable susceptibility to the complaint. Success brought boldness, and the restricted claim for the improvement of ventricular dilatation was now enlarged to a bid for empire over the whole cardio-vascular domain. Patients with organic valvular disease, with renal disease and secondary cardiac manifestations, with angina pectoris, with high blood-pressure, and even with aneurysm of the aorta, crowded to Nauheim, and were persuaded into the belief that they could prolong their lives by daily dragging their dropsical limbs up the steps of the Kurhaus. And yet no one ever died at Nauheim. The climate is peculiar, it does not suit the moribund. They are removed to a neighbouring parish.

And now that this house of cards is fallen, this pillar of salt dissolved, we rub our eyes and ask ourselves if there was really aught of value beneath the tinsel of the exterior. The answer must be in the affirmative. Tepid and cold effervescing saline baths have their place in the armamentarium of the cardiac therapist. It is not a very large place, perhaps, but such as it is we owe it to Nauheim. Such baths are

to be found at various places in France; they can be, and are, prepared artificially almost anywhere, and cases which were really suitable to treatment at Nauheim can be equally well treated in a great many places, especially at such as have at their disposal a natural saline water, such as sea-water. There are some seaside stations in this country where a special feature is made of Nauheim baths. Amongst the foremost of these is Sidmouth, in Devonshire, where the salt water baths, carbonated or plain, are put to a variety of useful therapeutic purposes. The climate of Sidmouth is very suitable to the debilitated and convalescent, and the baths afford a very helpful agent when, in such people, the heart has become enfeebled and dilatation is present. The Nauheim baths are here prepared by diluting the sea-water and adding the carbonic acid.

There are two stations in France which have made a special feature of the treatment of circulatory disorders. One is Bourbon Lancy, the other Royat. Bourbon Lancy had acquired a reputation as a cardiac spa many years before the days when the miracles of Nauheim dazzled a credulous world. In the light of subsequent events it is now obvious that its claims were too modest. For it has never pretended to cure organic disease, nor has it even undertaken either to discover or remedy cardiac dilatation, as measured by the fractions of a centimetre dramatically blue pencilled on the patient's chest. Its claims, though modest, have been scientific, and, what is of more importance, they have generally been justified by the event. Stress has never been laid upon the presence in the waters of a certain amount of carbonic acid, and neither claims nor results have ever been exaggerated. The cardiac affections susceptible of amelioration have thus been summarised (I quote Burney Yeo): "Valvular insufficiencies at their commencement —i.e., about six months after the beginning of the endocarditis; cardiac affections at the onset of failure of compensation, functional insufficiencies, mitral constriction, with or without arhythmic palpitations, arterial affections at the period of heightened tension, and cardiac disturbances of renal origin with dyspnœa due to alimentary toxins; finally, functional troubles, fatty accumulations about the heart, palpitations of peripheral origin due to vascular spasm, cardiac disturbances during growth with malformed thorax, pseudo-anginas, and the unstable pulse of the neurotic." Bourbon Lancy is a quiet, agreeable little spa with a sedative, equable climate, well suited to the treatment of cardio-vascular troubles.

The other French cardiac spa, Royat, quite close to the large town

of Clermont-Ferrand, offers a very decided contrast to Bourbon Lancy, in that it is stimulating instead of sedative, and gay instead of quiet. It had a reputation in the pre-Nauheim days, but that reputation was based upon its value in the treatment of what the French call "arthritisme" rather than upon its success in cardio-vascular disorders. It was indeed called the French Ems, for the reason that its waters are not dissimilar from those of the German spa, and that much the same diseases were treated at the two places. The presence of carbonic acid gas in the waters prompted it to introduce the Nauheim methods, an enterprise which has been thoroughly justified by the energy, learning and scientific honesty of its physicians. What there was of real therapeutic value at Nauheim will be found in full measure at Royat, with the addition of a delightful climate, exceptionally beautiful surroundings and an establishment which is well provided with facilities for every kind of balneary treatment. Royat has the best swimming bath that I remember to have seen on the Continent.

A cardiac spa of rather a different type from either of the foregoing is Llangammarch Wells, in Mid-Wales. Its barium waters certainly seem to be of service in many vascular conditions. With a little more local enterprise the place might very easily become highly popular.

For disorders of the respiratory system Austria had no stations of the first class to offer, and Germany one only. That one—namely, Ems—was, it must be admitted, a particularly attractive little station which was visited almost as much as a pleasure ground as a health resort. There is, however, no difficulty in finding a substitute for it. The difficulty is, indeed, in the direction of selecting, from the large number of French spas which specialise in affections of the air passages, a few which are sufficiently pre-eminent to be noticed without injustice to the remainder. Nevertheless, no one would, I think, dispute the claim of Mont Dore to be regarded as the spa *par excellence* for respiratory affections. Its speciality is asthma, but it deals very successfully with chronic bronchitis, and indeed with all catarrhal and congestive conditions of the air passages, whether upper or lower. It is especially successful where such complaints appear in people past middle age with a gouty or rheumatic tendency. The climate is mountainous, that is, bracing, with weather which is liable to be disturbed by sudden storms. The bathing establishment, with its *salles d'aspiration* and very complete equipment for every kind of modern bathing treatment, is one of the best in Europe.

Another spa which is deserving of special mention in this connexion

is Cauterets, in the Pyrenees. Cauterets is a sulphur water spa which appeals more especially to patients suffering from chronic laryngeal troubles, and is consequently much frequented by those who, like actors, singers, orators, and priests, are liable to strain or fatigue their vocal cords, and take themselves and their troubles seriously. The accommodation at Cauterets is very good, and the surrounding country is exceptionally attractive.

A certain number of mineral water stations have specialised in the diseases peculiar to women. Chief among these is Franzensbad in Austria, not far from Karlsbad and Marienbad, which has enjoyed a very great reputation in most of the chronic diseases of the female pelvic organs. The grounds for this specialisation in the case of Franzensbad appear to be characteristically capricious. Its waters resemble very closely those of the two great neighbouring spas, over which it does not seem to have had any special advantages in the treatment of gynæcological disorders. Nevertheless, Franzensbad was the "ladies' spa," and no matter what was wrong with you, whether you were gouty or obese, or bronchitic, or anæmic, or leucorrhœic, if you were a real lady, to Franzensbad you had to go. Very special stress was laid upon the treatment by mud baths, but the real secret of its success was the strong purgative element in the waters. Constipation is one of the main secondary characteristics of the female sex, and he who would succeed in the treatment of any malady whatsoever in a female patient must have this fact ever before him. It is the cause of nearly all the chronic diseases of the pelvic organs, and no treatment of these which fails to include vigorous alvine evacuation is ever likely to succeed. But the necessity is seldom recognised. In the case of the bladder we realise that slight discharges of urine may signal danger; they indicate that the viscus is distended, and we speak of overflow. In the case of the colon we allow our patients, especially our female patients, to believe that even one slight daily evacuation suffices, and permit them to continue contentedly on their constipated course, laden with ptomaines and leucomaines in which the *Bacillus coli communis* flourishes in opulent fertility.

I do not know whether Franzensbad had arrived at a realisation of the powerful factor which the purgative waters supplied to its success as a "ladies' spa"; but this I do know, that the two French spas, Plombières and Châtel-Guyon, which concern themselves very specially with the colon, have of recent years been emphasising the good effects which their method of intestinal lavage produces in chronic disorders of

the female pelvic organs, and there is no doubt that Buxton, Harrogate, and other stations where the Plombières methods are regularly employed, would tell a similar tale.

But there are "ladies' spas" which have something more to offer than purgation and intestinal lavage. In so far as mud baths are concerned, a substitute for those at Franzensbad is well supplied at Dax, a pleasant winter station not very far from Biarritz, where such baths are very successfully employed in association with the hyperthermal natural mineral water. Dax has a very equable winter climate which is very suitable for the aged and the bronchitic. The close proximity of a large forest of pine trees may account for the very sedative quality of the air.

Most of the stations which have specialised in gynæcological disorders are possessed either of strong brine waters or of sulphur waters. There are two sulphur water spas in the Pyrenees, St. Sauveur and Eaux Chaudes, both of which have acquired a very great reputation not only with French but with Spanish physicians, for both are situated practically on the frontier. Each wears a little historic feather in its cap for having cured sterility in a famous case, the one a queen, the other an empress.

The best known of the salt-water stations on the Continent is certainly Rheinfelden, in Switzerland. This is a pleasant enough station, but its close association with the Grand Duchy of Baden, from which it is separated only by the Rhine, places it rather outside the scope of the present inquiry. The next in importance is Salies-de-Béarn. This station is situated about half-way between Biarritz and Pau, from which it might be inferred that it had an agreeable winter climate. Such is no doubt the case, but although the establishment is open all the year round, in the months of November, December, January and February there is a depressing dearth of visitors. The waters are heavily charged with common salt, and are very successfully employed in all the chronic diseases of the female pelvic organs. They are also used with conspicuous benefit in the so-called scrofulous tendency in children and young people.

In this country we have two stations which can boast of strong brine waters—Droitwich, in Worcestershire, and Woodhall Spa, in Lincolnshire. The waters of Droitwich are practically saturated with chloride of sodium, and, with the exception of Rheinfelden, are the most heavily mineralised waters in Europe. Droitwich, though thus well suited for the treatment of gynæcological disorders, does not appear to

have specialised in this direction; for its waters seem to be used chiefly in the form of baths for the relief of myalgia, neuralgia, and arthritic troubles. Very considerable success is obtained in these chronic maladies, and also in convalescence from acute disease. A middle-aged habitué of Continental spas who had thoroughly earned the gouty and rheumatic troubles which afflicted him, once told me that half an hour in the swimming bath at Droitwich was worth more to him than all the other treatments in Europe rolled into one. Droitwich is one of the British spas which is most popular with our American cousins, a fact which speaks highly for the excellence of the accommodation to be found in the hotels, and the good management of its bathing esthblishments; for in such matters Brother Jonathan is very exacting.

The waters of Woodhall contain much less common salt than those of Droitwich, from which they further differ by containing some chloride of calcium, an appreciable amount of bromide and a small quantity of iodide. This composition is, in fact, very similar to that of sea-water. Unlike Droitwich, Woodhall Spa has always made rather a feature of the treatment of gynæcological disorders. It is an admirable substitute for Kreuznach. The bromo-iodine content of the waters is much larger than that of the Kreuznach waters. These waters cause the absorption of inflammatory deposits wherever situated, and when the site of such deposits happens to be the sensitive female pelvic organs, the treatment is productive of excellent results. But this absorptive effect is by no means limited to such organs. A large proportion of those visiting Woodhall are afflicted with what are called the rheumatic diseases—myalgia, neuralgia, rheumatoid and other forms of arthritis. Chronic pharyngitis is also very amenable to the treatment. The resources of the place afford opportunities not only for nearly every kind of bath, but for all the modern methods of dealing with chronic disease, including vaccine treatment. The accommodation is good, and the distractions are peaceful and unobtrusive. The climate combines the characteristics of the seaside with those of a pine-wooded moorland station. The rainfall is very low and the air is very bracing. It is a good place for children; a bad one for pulmonary complaints.

For diseases of the urinary organs Wildungen, in Germany, enjoyed a reputation which was almost world-wide. It was a very agreeable spa, and its diuretic waters, which had long been famous in such affections as renal and vesical concretions, cystitis, and other diseases local to the urinary organs, were recently being used with increasing confidence in such general disturbances of metabolism as are treated at Karlsbad,

Marienbad, and Kreuznach. For the truth is, a great change has come over the conception of the nature of these disturbances, and the best way of dealing with them; and Wildungen, conscious of the change, was seeking to profit by it. The change was essentially one in what may be called the perspective of the excretory organs. The older view regarded the bowels as paramount, and assigned a minor rôle to the kidneys; the modern view, while recognising that the bowels are of great consequence, nevertheless attaches the greater importance to the kidneys. The alvine was the German method, inconvenient, but characteristically impressive. The renal is the French method, delicate and unobtrusive, but resistless. Thus it had come about that the urinary spas were attracting to themselves a very large number of the gouty, rheumatic, diabetic, and other metabolic invalids who used formerly to go to the purgative spas. Of such patients Wildungen was getting its full share. But the pioneer in this matter was undoubtedly Evian-les-Bains, on the Lake of Geneva. This charming little station took the lead, and is likely to keep it, for there is no resort in any country which is more liberally equipped, or where, in addition to the diuretic waters, more serious attention is paid to the requirements of invalids—dietetic, balneary, and recreative. The change which Evian initiated has shown its importance by the behaviour of such well-established metabolic spas as Aix-les-Bains and Buxton, both of which have within recent years insisted increasingly upon the importance of diuresis in the treatment of the diseases for which they cater. In the matter of diseases local to the urinary organs Wildungen was, in this country at any rate, always considered second in importance to Contrexéville and Vittel. These two spas, which are close together in the Vosges Mountains, provide for much the same type of invalid. They are both deservedly popular. Of the two, Vittel, as befits the younger, is the more enterprising.

One of the best known spas in Germany was Aachen, or Aix-la-Chapelle, and it need not be denied that the special treatment for which it was famous produced results which were the envy of other places catering for the same disease. Wherein the superiority of Aachen over these others consisted I do not pretend to say, but the superiority itself I have been rather reluctantly forced to recognise on several occasions. There are two substitutes in France, but, so far as I am aware, none in Great Britain. The two in France I mention in order of merit. Luchon, a sulphur water station in the Pyrenees, not far from Toulouse, is a very charming summer station with an altitude of over 2,000 ft. Mercurial

treatment is very well carried out there, the local physicians having for some years past paid very special attention to the management of luetic and post-luetic complaints. Uriage, quite close to Grenoble in the mountains of the Dauphiné, is also a sulphur water spa with a considerable elevation above sea-level. Like Luchon, it is open only in summer-time, and like Luchon, it has recently made a special feature of the treatment of constitutional syphilis by inunction and other modern methods. It is a very agreeable little station in the same district as Aix-les-Bains.

Although not strictly within the scope of the subject, I cannot conclude this brief review without some mention of two well-known stations, lest the careless should think that I deemed them unworthy of mention. If we except Wiesbaden, Germany has no winter spas, and Wiesbaden in winter is only partially open. Austria has none. The two to which I would call attention are both essentially winter stations, and cannot, therefore, be cited as substitutes for any Teutonic resorts. The importance of a thermal water station, which is at the same time blessed with a suitable winter climate, is very generally admitted, and can scarcely be over-estimated. Of such stations there are only two in the first rank. One is the ancient and beautiful City of Bath, in Somerset; the other is the comparatively modern Pyrenean station of Vernet-les-Bains. These places have waters which closely resemble one another; they are both hyperthermal, and they are used therapeutically in much the same manner, for much the same complaints. These complaints belong to the metabolic and arthritic category, and the stations may be regarded as winter supplements to Aix-les-Bains, Evian-les-Bains, Vittel, and other Continental stations already mentioned; and in this country, to Harrogate, Buxton, and Llandrindod, at which such diseases are admirably treated by physicians of proved scientific capacity. The difference in the climates and in the general features of the two places is very marked.

Vernet-les-Bains cannot pretend to compete with Bath. Its climate is bracing. In winter it is just below the snow-line, at an elevation of over 2,000 ft., and though cold, the air is dry and windless. There are no churches, there is no football, and no golf. The shops are primitive; but the hotels are modern, and the cooking is French; the baths are modern, and the masseurs are French; and there is a casino. If you are in search of pleasant experiences you may visit Spain in an electric tramway. Should you be interested in architecture you may visit Toulouse, which calls itself "la ville des fleurs et des jolies femmes,"

and is one of the few towns in France whose monuments survived the ravages of the Revolution. And if you are sensitive to the influence of ancient tradition you may transport yourself into another world at the neighbouring town of Carcassonne, the only perfectly preserved specimen of a thirteenth or fourteenth century fortified town in Europe.

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DISCUSSION.

Dr. BEZLY THORNE stated that in his experience effervescing baths certainly relieved cardiac dilatation, an observation that had been vouched for by Professor Grainger Stewart and Dr. Huchard, of Paris, In a paper at the International Congress of Medicine in Paris, entitled "Les Maladies du Cœur et les Bains Chlorurés Artificiels," he had pointed out how the same treatment could be carried out in France. For satisfactory results certain conditions must be fulfilled: mastery of technique, careful medical supervision throughout the course, and security from the cares and distractions of habitual environment. There were many cases in which treatment at home yielded results unattainable abroad. This applied especially to patients who were confined to the house by advanced disease or by some intercurrent malady; those less severely affected for whom a sea-passage followed by a long and fatiguing land journey were contra-indicated; those who required a carefully regulated diet, and particularly those in whom some form of toxæmia required concurrent treatment by means of autogenic vaccines. As at Nauheim, effervescing baths should not be employed during the earlier stages of the treatment. The patient was gradually prepared for the increased cutaneous excitation of the effervescing baths by gradually increasing additions of mother-water, containing mainly calcium chloride. Harm was sometimes done by inducing a degree of vascular dilatation to which a weak myocardium was not able to respond. He had recently given radio-activity to such baths by the addition of a preparation in which radium barium sulphate was fused into sodium chloride and the resulting compound ground into a coarse powder. He believed that the addition of 1 lb. to a 30-gallon bath imparted radio-activity equal to that of the natural waters of Gastein. As to the cases for which the baths were suitable, attention had been too much directed to the heart. Increase of arterial lumen occurred simultaneously with, if it did not precede, increase of systolic energy; vascular conditions, such as atheroma, arterio-sclerosis, and Raynaud's disease, were therefore sometimes benefited. There was a wide scope for home balneological treatment.

Dr. E. I. SPRIGGS (Banff) said that to those unfamilar with Continental methods of treatment nothing was more striking than the prevalence of sanatoria for all kinds of diseases at German health resorts. The institutional treatment of diseases was of great antiquity, but until recent times had been mainly confined to the poor. Those who could afford it naturally preferred to be treated at home, and would in the future also doubtless continue to do so as a rule. Our Teutonic relatives, with their love for routine and classification, for tenement dwellings and restaurant life, took kindly to sanatoria of all kinds—the British not so well. There were, however, many diseases which

could no longer, with the growth of scientific medicine, be investigated and treated properly by any one man, but required a team of workers—clinical, chemical and physical. In such cases it conduced to efficiency and saved time and money if all the workers and the patients were under one roof and one control. In such complaints as these they were, he thought, bound to follow the Continental lead, but not, he hoped, without discrimination. It was a thankless task to criticise where they had learned so much, but, while honestly acknowledging their debt to German example, they should copy only what was good and avoid the less desirable features. For instance, in only a few German sanatoria was sound laboratory work done. Nearly all had a show laboratory, but many of these sent out their material to other laboratories which returned long lists of analytical figures, often of no clinical import, and, perhaps for that reason, accompanied by no adequate interpretation. It was, of course, very difficult to make observations on total metabolism unless the patient was close to the laboratories. Sample analyses might be misleading. Again, there was a great tendency abroad to overclassify patients and treat them in batches. In some well-known resorts, for instance, there was a definite series of a few diets which everyone seemed to work through. This was a great saving of trouble and expense, and those who only needed rest, change, or a simple life did well on it, but it was not in the interest of the real sufferer. For if the patient and the patient only be considered, it would be found that there were seldom more than a couple of people out of twenty or thirty for whom identical diets, both as regards quality and quantity, would be prescribed. The specialisation of forms of treatment other than dietetic was also frequently carried to excess. Thus in one, gastric lavage was the main feature, in another a special bath, in another gymnastics, electrical treatment, or emanations, and so on up to the border of charlatanism and across it. The fixing of the length of "cure" was an unscientific feature. It said in so many words, "If our routine treatment does not put you right in four weeks or so, you are a troublesome patient and will do us no credit. Please move on." But not all German sanatoria were open to these charges, though many were so. The speaker had visited a good number during the last fourteen years, and he might say that those which he regarded as the soundest from the medical point of view were, with one or two exceptions, not those most frequented by English and American folk. It must not be forgotten that the isolation of the patient and freedom from ordinary duties and cares were an important factor. Distance was an advantage. The same results would not be obtained if the patient was so near his work that he could run home for week-ends. It might be of some interest to compare for a moment his own experience of institutional treatment at Duff House with that of former consulting practice in London. Diagnosis was, of course, more searching because the laboratories and workers were at hand; there was more time, and the food and mode of life of the patient could be controlled as desired. As regards treatment, he must say that intestinal disorders and the various forms of stomach-ache seemed to be more tractable than they did

formerly. In the endeavour, too, to increase or reduce weight it was clear that much time was saved if the value of the food not only served but actually consumed was known from day to day in scientific terms. In glycosuria there was no comparison between what might be done after consecutive metabolic observations and what without them. Every case ought to be thoroughly tested for at least a month with complete control of diet and daily analyses of acid bodies in the urine, as well as the sugar in the urine, and from time to time in the blood. One could not prophesy what forms of carbohydrate would be good or bad for the patient. Only by trying could this be found out. But with a knowledge of the chemical features of the case it was possible to furnish the medical adviser of the patient with information which enabled him to control the condition entirely in mild cases, and in severe ones to add to the expectation of life. It must freely be admitted that the demonstration of these advantages was owing to German work and enterprise. He hoped, however, that in this country they would go one better. They must aim at avoiding the commercialism too often obvious in their institutions; we must not frighten the fearful and create neurotics by giving them lists of details suitable for perusal by their medical advisers only; they must use any method of diagnosis and treatment shown to be good, and they must never depart from that individual consideration and treatment of the patient as a human being which was a feature of our national genius.

Dr. CALTHROP (Woodhall Spa) said that he had not noticed any reference to other than British and French health resorts as substitutes for the Teutonic spas; he would therefore like to draw attention to some of the Italian ones such as Salsomaggiore, Acqui, Monte Catini and Lucca, the equipment of which he was able to say from his personal observation was of a high order. It was worth recording that not only was Italy an old friend to England, but that since Roman times Italian physicians had practised and studied the use of mineral waters and baths. Egyptian watering places also must not be overlooked.

Dr. REGINALD HAYES (London) said that one expression of opinion in Dr. Leonard Williams's interesting paper gave him particular satisfaction—namely, the high estimation in which he held Aachen. He was surprised, however, to hear him say that he did not know of an English substitute for this spa, and might be allowed perhaps to suggest a very efficient one—namely, London. He wished specially to draw attention to the fact that the Aachen treatment of syphilis and tabes could be carried out in London quite satisfactorily. The essential part of this treatment was well known, and consisted of the inunction of a 33⅓ per cent. mercurial ointment with the bare hand of a skilled rubber under strict medical supervision, in addition to the use internally and externally of the muriated sulphur waters. The important part played by the waters of this group in assisting the mercury has been well explained by Chatin, of Uriage. Some years since, after a study of the technique on the spot, he began to practise the method in London, working with salts

evaporated from the springs for drinking and bathing, sometimes, indeed, using the water imported in bottles for drinking purposes. The advantages of the Aachen treatment over other methods of administering mercury were generally admitted. If skilled rubbers were employed, with close attention to detail, there was practically no difference between the results obtained abroad and at home. This conclusion had been arrived at after having observed its effect during the past seven years on a number of sufferers from serious manifestations of syphilis. Among many things learnt from the Aachen school was the curability of some cases with symptoms described as tabes, though here treatment was long and improvement slow.

Dr. PHINEAS ABRAHAM (London) considered that the Section was greatly indebted to Dr. Leonard Williams for his able and entertaining paper, and especially for his outspoken frankness in referring to some of the weak points in the exploitation of the British spas. Although they had excellent and just as good waters in this country, he regretted to say that, from a dermatological point of view, they were not as thoroughly or as efficaciously used as they were on the Continent. For instance, certain seborrhœic cases did remarkably well under vigorous local treatment with strong sulphur waters. At Schinznach and some other places abroad the bathing authorities took care (1) that there was an adequate and copious supply of the medicinal water; (2) that the water was brought from the spring in wooden pipes and never exposed to the air; (3) that it was warmed without admixture with other water; (4) kept under pressure; and (5) forced after "pulverisation" into the skin of the parts affected. He was not aware that he could get this done for his patients in any of their own watering places. More than once he had visited, and had frequently sent patients to the principal British spas, and he had been astonished to find that in some cases the common town water—instead of their much advertised mineral water—had been largely used, pure or mixed, in their palatial bathing establishments. In one well-known bathing place the strong sulphur water was notoriously insufficient to "go round," and was necessarily mixed with other water, or in the "douche" and "massage" baths perhaps not used at all; in another the water, which as it emerged from the spring contained free H_2S, was stored in tanks, and by the time it reached the baths was innocently free of any sulphur, as Dr. Abraham had proved on two occasions. Both these celebrated spas had every conceivable kind of bath—"air douche," "massage," "Plombières," &c.—and all the newest X-ray and electrical appliances, as well as "kursaals," grand hotels, and gardens galore. He would suggest that the local authorities should spend their money better by trying to increase the supply of the valuable local waters and to prevent the loss and evaporation of their important ingredients. Douches, massage with common water, X-ray and electrical work, &c., could obviously be just as well done in London. In reference to the Aachen treatment of syphilis, he was glad to know that measures on the same lines were being employed at home. He doubted, however, whether they could ever be

so well carried out as at Aix-la-Chapelle, for many reasons. Over there "every one was doing it," but here he did not think that any of his patients would submit, for instance, to washing out his mouth with an antiseptic every half hour during the day.

Dr. MANTLE (Harrogate) said he could only substantiate what had been said as to Harrogate being a most complete and up-to-date spa, situated as it was on a bracing stretch of moorland, in which no fewer than eighty springs had been found: the best of these, as the result of experience, were made use of for drinking and bathing purposes. Harrogate had long been a rival of the great Continental spas. There had been difficulties in exacting from patients the dietetic regimen which many were ready to adopt on the Continent whilst hesitating to do so in their own country, but this fault was now much less in evidence.

Dr. R. ACKERLEY (Llandrindod) said he agreed with previous speakers that it was most desirable that there should be a much stricter régime at the English spas; but was not the great difficulty in any change to be found in the English character? At Rome the Englishman would do as Rome did, but at home he insisted on his right to go his own way, a liberty that was not always to his own interest.

The PRESIDENT said the Society was much indebted to the writer of the paper, which was of singular utility at the present time, for indicating in such an able, clear, and interesting manner the spas they would be compelled to select for patients owing to international complications. When considering some of the German and French spas well known for the treatment of gynæcological affections one was struck by the fact that we had in this country spas with similar waters, which were not utilised, or only to a slight extent. He believed there was ample scope for an extension of their employment. With regard to Woodhall, the only British spa that had achieved a reputation for the treatment of diseases of women, he had noticed results quite as good from treatment there of chronic pelvic affections as at Kreuznach or Franzenbad. In fact, comparing Kreuznach with Woodhall, he had found the latter resort more efficacious, because the question of climate came in, Woodhall being mildly bracing, whereas Kreuznach, lying in a valley close to a river, was very hot and relaxing in summer. Salsomaggiore (Italy), whose waters resemble those of Kreuznach and Woodhall, had been found of utility in similar cases. It was probably known to most that Biarritz, the well-known marine station on the south-western coast of France, provided strong common salt baths, supplied by the springs of Briscous, and that a treatment resembling that of Kreuznach was carried out there. He considered that at our sea-shore resorts sea-water baths and copious douchings with sea-water deserved trial in many cases of chronic inflammatory pelvic conditions and in affections where leucorrhœa was a prominent symptom. Amongst the sea-shore places available, choice could be made of a climate suitable for the

patient, and it was worth while considering that treatment might be obtained at some of the south coast places at all seasons of the year. There were two spas with chalybeate waters that he thought were not mentioned in the paper, celebrated for the treatment of certain affections in women—Schwalbach in Prussia, and Spa, the beautiful Belgian resort, situated about sixteen miles from Liège. It was unfortunately impossible at the present moment to make use of Spa as a substitute for Schwalbach, but he trusted the day was not far distant when its dual claims to their consideration would be remembered by the medical profession of Great Britain.

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OF THE

ROYAL SOCIETY OF MEDICINE

VOLUME THE EIGHTH

COMPRISING THE REPORT OF THE PROCEEDINGS FOR THE SESSION 1914-15

SECTION FOR THE STUDY OF DISEASE IN CHILDREN

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1915

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Section for the Study of Disease in Children.

November 27, 1914.

Mr. T. H. KELLOCK, M.C., President of the Section, in the Chair.

THE PRESIDENT said that before the ordinary business was commenced he wished to express his thanks for the honour which the Section had done him in electing him President for the current year. He assured the members that he would do all he could to help and further the aims of the Section. He was only sorry that the times were such that their thoughts were necessarily mixed up with other matters, and the meetings of the Section must suffer. The Section had decided, rightly he thought, to hold a reduced number of meetings, to see whether the work of the Section could be satisfactorily carried on. His experience in one of the other Sections induced him to believe that the meetings of this Section could, and would, be carried out successfully. At present the hope was that all the advertised meetings would take place, and certainly the present meeting was a very good indication of success for future ones.

Child with Tooth erupted at Birth.

By E. B. GUNSON, M.D.

MALE, infant, one of twins born at full term on October 4, 1914. The left lower median incisor was erupted at birth. On the tenth day the tooth, which was then loose and attached only by the gum, was removed as its presence interfered with suckling. The right lower median incisor had then also appeared through the gum. The child was well developed and presented no other abnormality. The fellow twin was normal.

DISCUSSION.

Dr. GUNSON added that he had not brought the case forward so much because it was a rare condition, as maternity statistics showed that teeth were present at birth in about one in every 5,000 cases, but he hoped to hear a discussion on the ætiology of such a condition. Many authorities held that teeth appearing at this period indicated a syphilitic taint in the child; Henoch, however, thought it was due to periostitis of the alveolar margin, involving the socket of the tooth, and that the inflammatory process tended to push the tooth forward prematurely. Dr. Rolleston had brought to his notice a contribution by two French writers[1] stating that these teeth were of the nature of teratomata. He had had a section made of one of the teeth and placed it under the microscope; he did not think it showed definite changes. He hoped to hear the views of members.

The PRESIDENT (Mr. T. H. Kellock, M.C.) regarded it as a rare condition. With regard to the suggestion that syphilis might be at the bottom of the early eruption of these teeth, he thought the fact that they were fairly commonly associated with hare-lip and cleft palate would be against this idea, because it was not at all uncommon to find babies with double hare-lip or cleft palate with teeth erupted either at birth or soon after. These cases, therefore, seemed rather to be instances of developmental error than of a pathological condition.

Dr. J. D. ROLLESTON said it was interesting, historically, that several very distinguished men had had teeth erupted at birth; he did not think that any of them were the subjects of inherited syphilis. They included Richard III, Louis XIV, Cardinal Mazarin, and Mirabeau.

Case of Keratosis Follicularis Spinulosa.

By J. L. BUNCH, M.D.

THE patient was a boy, aged 4 years, in whom the first skin lesions had been noticed some eighteen months ago on the neck, and later on the arms, back, and abdomen. They consisted of small acuminate papules, pale in colour, which were even more perceptible to the touch than to the eye. There are now a large number of these papules, which to the hand give somewhat the sensation of a nutmeg-grater, but they evidently cause no subjective symptoms, and there is absolutely no sign of scratching. The scalp is not involved, and the case therefore differs

[1] Balard et Commues, *Journ. de Méd. de Bordeaux*, 1913, xliii, p. 263.

from one which Dr. Bunch showed recently, in which a hyperkeratosis of the pilo-sebaceous follicles of the scalp and eyebrows had led to the breaking off of all the hair on these regions, and, practically, a comparatively well defined alopecia.

DISCUSSION.

Dr. BUNCH added that the case showed complete absence of inflammatory phenomena round the lesions. The condition was perhaps better known under the names lichen spinulosus and lichen pilaris. He, however, objected to the name lichen applied to it, as there was in this case and many others an entire absence of inflammation around the follicles. There were no subjective symptoms in the case, whereas in adults this disease was frequently accompanied by marked symptoms of irritation. There was in this case no history of heredity bearing on the condition.

Dr. TRAVERS SMITH asked whether this condition was not associated with some variety of ichthyosis.

Dr. BUNCH replied that he drew a distinction between the two, in that ichthyosis covered a more extensive area, and the hyperkeratosis in the disease now shown was limited to the pilo-sebaceous follicles. Possibly the original cause might be of the same nature. The agent he believed to be a toxin.

Friedreich's Disease with Spastic Phenomena.

By J. PORTER PARKINSON, M.D.

E. L., AGED 13 years, was the ninth of ten children; his mother's eleventh pregnancy terminated in a miscarriage. For three years before patient's birth the mother was very depressed and almost insane. Patient was a full-term child, healthy at birth, but before the age of 3 years had scarlet fever, measles, chicken-pox, whooping-cough, and diphtheria. He began to walk at 3 years but never walked well, and was never very intelligent. (He is now only in the second standard, though 13 years of age.) He began to stammer two years ago. He is subject to "bilious attacks."

He is now a fairly well grown boy with a rather unintelligent expression. Speech indistinct, slurred and syllabic. Gait spastic, uncertain, tends to keep the heels raised from the floor; slight difficulty in turning. Romberg's sign negative. The legs are held stiffly, the muscles hard and well developed; the foot shows marked pes cavus

with some equinus; the great toe is hyperextended at the proximal joint, and the extensor tendon very prominent. There is marked knee and ankle clonus and an extensor plantar reflex. The arms are in every way normal, grasps equal, no ataxy of arms or legs. Cranial nerves normal, no nystagmus, and no changes in the fundus of the eye. The spine is normal, and the bladder and rectum not affected. Sensation is normal. There is no similar disease in the family.

I believe this to be an example of Friedreich's disease in which the lateral columns of the cord are mainly affected; there is no sign yet of posterior column disease, anyhow Lissauer's tract is not affected at present. There is some resemblance to the spino-cerebellar ataxy described by Sänger, but it differs from this in the absence of optic atrophy.

DISCUSSION.

Dr. PARKINSON added that the heading "Friedreich's Disease" was intended as a challenge to anyone who wished to discuss the diagnosis. Specific trouble was thought of, but the Wassermann reaction was definitely negative, and the family history was remarkably good. The patient was the ninth arrival of a family of ten children; the eleventh pregnancy resulted in a miscarriage. The teeth of the boy were slightly suggestive of hereditary syphilis, though he presented nothing else suggestive of that disease. He believed that in this case the posterior column was either unaffected or very little affected up to the present time; there was no ataxy.

Dr. E. CAUTLEY suggested that this was a case of encephalitis occurring in the course of measles, and affecting the motor region to some extent, producing in that way secondary spasticity.

Dr. MIDELTON thought the history of diphtheria was important, as the micro-organism of that disease seemed to have a selective action on the nervous system. Dr. Parkinson evidently thought the disease progressive, as he spoke of certain events not having occurred *yet*. Could something be done to arrest the progress? The organism of diphtheria might still be at work.

Dr. PARKINSON replied that the child had never walked well, and the difficulty had come on gradually, not at all acutely. That history was against the view that there was encephalitis, or anything of that kind. With regard to treatment, he would have been very glad of any suggestions; he was quite willing to adopt anything which promised well.

Tumour of the Upper Extremity of the Femur.

By L. BROMLEY, M.C.

A. G., AGED 12 years. This patient was admitted to the Victoria Hospital for Children on June 13, 1914. A swelling of the right thigh had been noticed for the previous seven or eight weeks. He complained of pain in the right leg, especially after walking; on some days the pain was so severe that he was unable to walk. When the patient was aged 3 years he is said to have fractured the right femur, since then he has had intermittent pains of an aching character, which have increased lately.

On examination a hard swelling of the upper third of the right femur was felt. There was no definite margin, and no heat or tenderness. Movements at the hip-joint were free. Skiagraphic examination showed an endosteal growth of the femur.

An exploratory incision was made. The bone was found to be expanded and covered by normal periosteum; a thin layer of compact bone surrounded a mass of cartilage which had entirely replaced the medullary cavity. A portion was removed for microscopic examination. This showed pure chondroma, and there was no suggestion of malignancy.

DISCUSSION.

Mr. BROMLEY added that cases had been recorded in rickety children in which fractures had led to the deposit of cartilage in the region of the fracture, and the name "callus tumour" had been applied. He would be glad of more information on that point, because the history of this case suggested that the condition had some connexion with the fracture. He exhibited skiagrams of the case, which were taken by Dr. Melville. The diagnosis before exploration was either myeloma or chondroma. Exploration revealed an avascular, homogeneous, and purely cartilaginous tumour. At that time it was too large for complete enucleation. Since the exploration in June the patient had been kept in a Thomas's splint, and had not been on his feet. The patient suffered much pain, extending down the back of the leg, presumably due to pressure on a nerve. If allowed to go on, he supposed the best one could hope for was that the tumour would ossify. He asked for suggestions as to treatment.

The PRESIDENT said it was interesting to hear what Mr. Bromley said about injury causing the chondroma. He had had a case of the same kind not long ago. A man employed by a railway company had a severe blow on his finger when in the act of catching a bolt which had been driven out from above. It caught the second phalanx of his first finger, and for a time he was treated for fracture of that phalanx. As the finger began to swell the condition was thought to be tuberculous, and the man came to London. The skiagram led him to think he had a cyst in the bone, but on operating he found an enchondroma of the phalanx, which evidently originated from the injury. He scraped it out, and the patient did very well. He would have thought it advisable in Mr. Bromley's case to adopt some treatment. At present the tumour was innocent, but there was always a danger of sarcoma supervening. He suggested it would be worth the risk of destroying a considerable quantity of that bone by scraping out the cartilaginous tumour; the shell of bone remaining might suffice to hold the bone together while new bone was being formed.

Two Cases of Heart-block.

By T. R. WHIPHAM, M.D.

Case I.—A female infant, aged 2 years 2 months. The child was born at full term, and has always been backward. The first tooth was not cut until the age of 9 months, and she did not sit up until she was a year old. Up to the present she has not walked or talked. She is a well-nourished child with a good colour and presents no clubbing of the digits. The pulse is slow, full, and regular. The right side of the heart in the skiagram appears to be enlarged, and the outline of the organ is almost globular. All over the præcordium a loud systolic bruit is audible, the maximum intensity being between the apex and the left sternal border and extending up to the pulmonary area. The heart-rate is slow, but it varies from time to time, the lowest recorded being 48, and the highest 80. The child was first admitted into the Evelina Hospital with whooping-cough and slight bronchitis, but even then the heart was only beating on the average about 64 per minute, and at times the respirations were quicker than the pulse. Paroxysms of coughing, moreover, caused very little, if any, acceleration of the heart. No cardiac symptoms have at any time been observed. An electro-cardiogram, kindly taken by Dr. Parkinson, shows a perfectly regular 2 : 1 heart-block. There is a polycythæmia of 8,400,000 red corpuscles per cubic millimetre and the hæmoglobin value is 110 per cent.

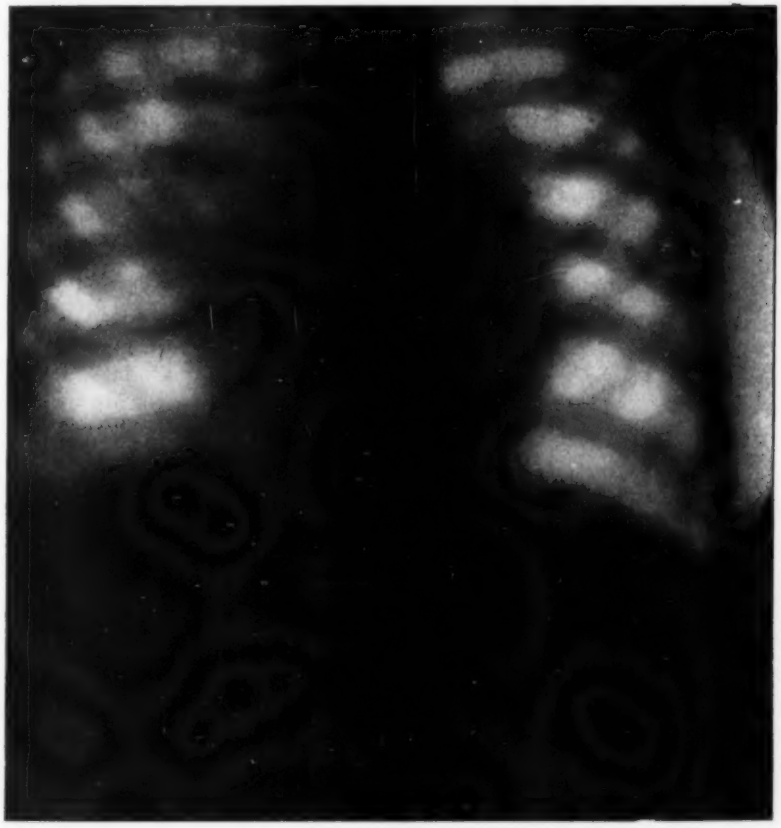

FIG. 1.

Skiagram of the heart (Case I).

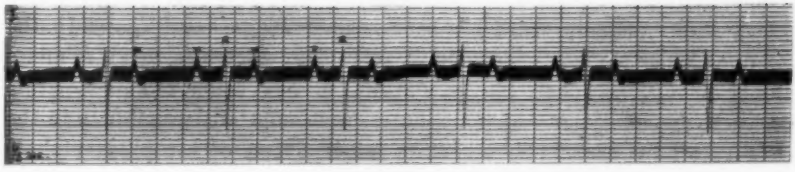

FIG. 2.

Electro-cardiogram (Case I).

Case II.—A girl, aged 12 years. With the exception of measles at an early age she has had no illness. Six years ago it was first noticed that she had a slow pulse, but it was not until eighteen months ago that any cardiac symptoms occurred; since then she has complained of pain around the heart on exertion. She is a well-grown girl and shows no cyanosis. The pulse is slow, usually between 50 and 60 per minute, and slightly irregular in rhythm; the extreme rates noted have been 40 and 64. The heart is of normal shape but it is considerably enlarged, especially on the left side, as seen in a skiagram, and there is a heaving impulse in the fifth interspace well outside the nipple line.

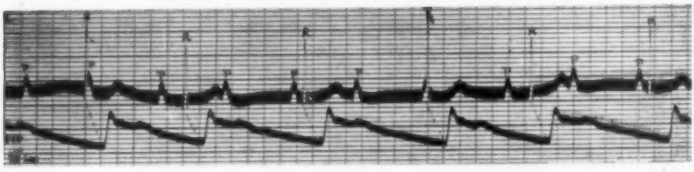

FIG. 3.

Electro-cardiogram (Case II).

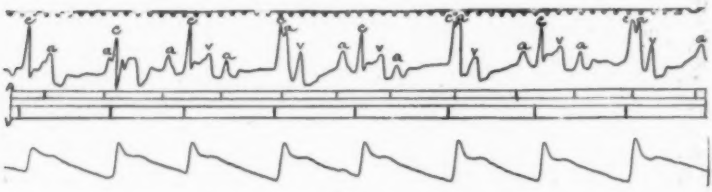

FIG. 4.

Polygraph tracing of the heart and radial pulse (Case II).

A systolic bruit is audible with its maximum intensity in the fourth interspace near the sternum; occasionally at the apex and a little outside a slight diastolic whiff has been heard. The second sound in the pulmonary area is at times reduplicated. An electro-cardiogram and a polygraph tracing taken by Dr. Parkinson show a marked dissociation between the auricular and ventricular beats, and an irregularity in the rhythm of the latter. A subcutaneous injection of atropine sulphate ($\frac{1}{60}$ gr.) caused the ventricular rate to be increased from 40 to 60 per minute, but did not affect its arrhythmia. It appears that there is no relation between respiration and this irregularity, and that the patient

at times has complete heart-block with pulse slow and regular, and at times incomplete heart-block of high grade (3 : 2, 2 : 1, and mixed) which produces an irregular pulse. The blood count shows 4,800,000 erythrocytes per cubic millimetre, with hæmoglobin 80 per cent.

DISCUSSION.

Dr. WHIPHAM said that both cases were undoubtedly due to a congenital defect involving the auriculo-ventricular bundle. Cases of heart-block were known to occur in children as the result of infective processes, but the occurrence of congenital cases supported by the evidence afforded by electro-cardiograms was, he thought, uncommon. He asked for views as to the cause and prognosis.

Dr. PORTER PARKINSON asked whether, in the younger of the two patients, there was any possibility of syphilitic infection. Sometimes syphilitic lesions occurred in the heart in young children quite early. Some years ago he showed a gumma in the heart of a child under 2 years old, and post mortem that was the only syphilitic lesion evident. If that were so in this patient it might account for the heart-block.

Dr. G. A. SUTHERLAND did not think such cases had been shown before the Section previously—i.e., heart-block in a patient apparently in a normal state of health. He hoped the excellent tracings exhibited would be reproduced in the *Proceedings* with the full description. The fact that both the patients suffered from congenital disease was very striking, and most people would be inclined to connect the congenital heart disease with the heart-block here. If one assumed that the lesion was a patent ventricular septum one could understand why there should be a certain amount of heart-block present, because the distribution of the nerves of the bundle of His might be interfered with owing to the patency of the septum. He also noticed in the tracings an auricular irregularity. He thought the explanation of that was, that in children it was almost impossible to get a regular pulse when the heart was beating slowly, owing to the influence of respiration on the length of the diastole. Assuming, however, that there was a lesion due to congenital defect causing the heart-block, he did not think the prognosis need be necessarily bad. The elder girl had apparently lived her thirteen years without cardiac symptoms, and hence there seemed no reason now for anxiety.

Dr. F. J. POYNTON said though he did not think the case he showed at the Children's meeting at the International Congress was of quite the same nature, it was of interest in its bearing. It was that of a small child who had epileptic fits at 6 months of age and was brought to the hospital on account of what the mother said was indigestion. The heart was extraordinarily irregular, and he asked Dr. Lewis to take an electro-cardiogram of it, but

the child cried so much that it was then a failure. Dr. Lewis tried again at the age at 2 years, and the peculiar beat was due to auricular extrasystole at regular intervals. He kept the child under observation for two years; it had now been sent away. During that time she developed a systolic murmur, but never seemed to be ill, although the extrasystole continued. In the case he had referred to, the irregularity only disappeared when she had an illness and the temperature rose: later the same curious rhythm developed. No one at the Congress could explain or throw light upon the condition, of those who saw her.

Dr. WHIPHAM replied that, so far as he knew, there was no indication nor history of syphilis in the baby. In reference to the case of gumma, he asked whether the patient had a murmur. [Dr. PARKINSON: No.] With regard to the cause, he thought it was a patent intraventricular septum. Dr. Sutherland mentioned the irregularity of the auricular beat. He (Dr. Whipham) thought that it was a sinus arrhythmia, due to nervous influences, or possibly to respiration. It was a point which might be investigated more fully.

Diabetes Insipidus with Infantilism.

By T. R. WHIPHAM, M.D.

THE patient is a boy, aged 4 years, the sixth child in a family of eight, all of whom have been backward. He was bottle-fed, cut his teeth late, and did not walk until he was 2 years old. He cannot yet talk. Height, 2 ft. 9 in.; weight, 1 st. 6½ lb. About two years ago he started to pass a large quantity of urine and at the same time complained of great thirst, drinking from puddles in the backyard, and even his own urine. From this time he is said to have wasted. On admission to hospital he was passing from 200 to 900 c.c. of urine *per diem*, but under general treatment and rest the maximum has been 300 c.c. in a day. For the past month he has been given polyglandin, but without any appreciable effect. The urine is very pale, of low specific gravity, and contains no abnormal elements.

Case of Giant Nævus.

By J. D. Rolleston, M.D.

Girl, aged 7 years, showing pigmented hairy and warty nævus and numerous accessory nævi. The principal nævus starts in front, slightly internal to the anterior border of each sternomastoid, and passes backwards, occupying each posterior triangle of the neck and extending 1 in. below each clavicle. Behind it extends as a continuous sheet upwards to the external occipital protuberance, outwards to the acromion process and downwards to the spine of the twelfth dorsal vertebra, where it ends in a tapering point.

The pigmentation of the nævus is dark brown, interspersed with vitiliginous patches, and is interrupted at the periphery by linear areas of unpigmented skin running obliquely downwards and outwards. The skin of the pigmented area is sharply marked off, but is not raised above the level of the normal skin, and shows no sensory changes. There is no spina bifida. The nævus is covered by downy hairs mostly of a light colour, except in the interscapular region where they are darker. Several warty growths of the same colour as the pigmented skin are present in the cervical and upper dorsal area of the nævus, the largest being situated just below and to the left of the external occipital protuberance.

In addition to the principal nævus other nævi are scattered over the rest of the skin. The largest are situated on the right thigh and right buttock. Most of the lesions situated on the limbs are hairy, but a few are smooth. A few smooth nævi are present on the soles, but the palms are free. The fewest and smallest lesions are on the face.

There was no hereditary nor familial history of similar lesions, but there was a definite history of a maternal impression. During the third or fourth month of pregnancy the mother had been frightened by a black and tan dog which had tried to bite her husband, and had thrown her arms over her head. She had anticipated that the child would be marked, though her doctor had tried to persuade her to the contrary.

Dr. Rolleston said that a giant nævus was one of the curiosities of medicine. The site of predilection for such growths was usually the "bathing drawers" area—i.e., the lower part of the back, abdomen, buttocks, and upper third of the thighs. A giant nævus of "tippet" distribution, as in the present case, was quite exceptional, and he could

find only four similar cases on record (Bircher [3], Bresovsky [4], Hallopeau and Lasnier [7], Joseph [8]). In Sir John Bland-Sutton's book on "Tumours" [2] there was a picture of a man with a nævus of somewhat similar distribution, but there was no history of the case. In addition to the "tippet" nævus there were a number of smaller nævi

FIG. 1.

Case of giant nævus (front view).

scattered over the face, trunks, and limbs, and the comparatively large nævi situated on the right buttock and right thigh suggested an abortive attempt at "bathing drawers" distribution. As was the rule in cases of giant nævi, there was no hereditary or familial history of similar lesions, but there was a definite history of maternal impressions, as in

several of the recorded cases, of which those recently reported by Drs. Dore [5] and Whitfield [9] were examples. Such a history, however, was by no means invariable. Dr. E. C. Williams, of Bristol, had kindly allowed him to show a photograph of a large pyriform hairy and warty nævus in a boy, extending from the upper dorsal to the mid-lumbar

FIG. 2.

Case of giant nævus (dorsal aspect).

region. In that case there was no history of maternal impression. In the present case there was no history or evidence of syphilis, but in view of Gaucher's theory [6] that nævi, like dental and other dystrophies, were due to heredo-syphilis, a Wassermann's reaction had been performed (Dr. Cartwright Wood) and proved negative.

The question of treatment was of importance from an æsthetic point of view. Alibert [1], in his classical work, related the story of a young woman in whom the nævus was so extensive as to resemble a black waistcoat and drawers. "The husband, who adored his wife when he had only seen her hands and face, was penetrated with horror when he learnt of this deformity. Separation was pronounced and plunged two families into the deepest affliction."

The mother of the present case is naturally anxious that something should be done before the child reaches the age of marriage.

Dr. Rolleston would be glad of suggestions as to treatment.

REFERENCES.

[1] Alibert. "Monographie des Dermatoses," 2nd ed., 1835, p. 801.
[2] Bland-Sutton. "Tumours, Innocent and Malignant," 5th ed., p. 125.
[3] Bircher. *Arch. f. Derm. u. Syph.*, Leipz., 1897, xli, p. 195.
[4] Bresovsky. *Pest. Med.-Chir. Presse*, 1908, xliv, p. 977.
[5] Dore. *Proc. Roy. Soc. Med.* 1911-12, v (Derm. Sect.), p. 118.
[6] Gougerot et Blum. *Ann. des mal. vénér.*, Par., 1914, x, p. 518.
[7] Hallopeau et Lasnier. *Bull. Soc. franç. de derm. et de syph.*, Par., 1907, xviii, p. 106.
[8] Joseph. *Berl. klin. Wochenschr.*, 1882, xxix, p. 163.
[9] Whitfield. *Proc. Roy. Soc. Med.*, 1911-12, v (Derm. Sect.), p. 119.

DISCUSSION.

Dr. Poynton asked whether many of these cases died of melanotic sarcoma? He believed such to be the case. He did not think anything could be done for such cases, they were too extensive. A member sent him a case with molluscous tumours, as well as a very extensive condition of this kind. Nearly all the child was covered with hair.

The President said the case raised two important questions. One concerned treatment. There was often a curious distribution about the face which seemed to follow no nerve route nor anatomical distribution. An illustration of this condition appeared in several text-books. It covered a good part of the forehead and cheek. "Barnum's man" had the condition over the whole of the face. In one of the cases he found great improvement follow freezing with solid carbon dioxide. The child had a nævus round the cheek, and he had excised a good part of it, and then grafted, but it was still disfiguring. Then the freezing was started and continued in the out-patients' department for two years, and in the end there was very great improvement; the hair came away, and the skin was very much paler. But it took a great deal of patient treatment. There was no scar remaining, and the skin was nice and soft. The other question was as to the reality of maternal impressions in these cases. He firmly believed there was something in them. Some years ago Mr. B. Pitts showed a child with much the same distribution of nævus; it was right down the middle of the child's

back. The story was that the mother, during the early part of the pregnancy, was sitting in a room, when a monkey jumped from the shelf on to the middle of her back. It was important to note that if the mother took no notice of such events when pregnant there was nothing abnormal about the child, but when it was clear that the mother had gone about telling people that she expected her child to be marked in a certain way and it was so marked surely there was something in it. But the subject could not now be discussed, as there were such wide differences of opinion on it.

Splenomegaly (? Splenic Anæmia of Infancy) improved by Antisyphilitic Treatment.

By Bernard Myers, M.D.

G. C., aged 1 year 11 months, was admitted to the Royal Waterloo Hospital last June (then aged 18 months) for diarrhœa and wasting. His weight at that time was 9 lb. 8 oz. His father died two years ago as the result of an accident, and his mother died of phthisis when the patient was a year old. At the age of 4 months patient had measles.

When first examined in June he presented a very wasted appearance all over, his subcutaneous fat and muscles having suffered severely in this respect. His abdomen was distended. The child was listless, anæmic, of an earthy complexion, and with a sunken fontanelle. Some signs of rickets were present. There were about six motions in the twenty-four hours. The temperature and pulse were normal on admission, while the respiratory rate was slightly raised. The spleen was enlarged, moderately firm, and extended to just below the level of the umbilicus. The edge of the liver was felt 1½ in. below the costal margin. No albumin was discovered in the urine, which was acid and of specific gravity 1020. The Wassermann and von Pirquet reactions were both positive.

The blood count on June 17 was:—

Red blood corpuscles	3,040,000 per cubic millimetre.
Hæmoglobin	44·0 per cent.
Leucocytes	14,000 per cubic millimetre.
Polynuclears	35·8 per cent.
Lymphocytes	54·8 ,,
Large mononuclears	6·0 ,,
Transitionals	1·4 ,,
Myelocytes	2·0 ,,
	100·0 ,,
Normoblasts	3·0 ,,
Megaloblasts	1·2 ,,

A provisional diagnosis of splenic anæmia of infancy was made. Hydrarg. c̄ creta, ½ gr. t.d.s., together with a bismuth mixture, were given. Some slight improvement only being noticeable, this treatment was stopped in favour of mercurial inunction over the region of the spleen. The diet consisted of milk in various forms, arrowroot, meat-juice, and small quantities of brandy. Distinct and steady improvement followed the inunctions. The diarrhœa gradually ceased, his appearance became healthier, and his face, body and limbs filled out. The spleen was noticeably smaller week by week. On September 17 he was put on syrup. ferri iodide, 10 minims t.d.s. On October 9 a blood count showed:—

Red blood corpuscles	5,640,000 per cubic millimetre.
Hæmoglobin	90·0 per cent.
Leucocytes	10,000 per cubic millimetre.
Polynuclears	30·2 per cent.
Lymphocytes	53·6 ,,
Large mononuclears	12·0 ,,
Transitionals	4·2 ,,
	100·0 ,,

Red blood corpuscles appear normal.

During his first two months in hospital his temperature was raised on and off. His present weight is 1 st. 4 lb. 12 oz. He looks well and is now a cheerful, intelligent child, and takes ordinary diet. Both spleen and liver are still a little enlarged. He has suffered from catarrh of the lungs, but this is now much better. On November 20 his blood was again examined by Dr. Leathem and his report showed:—

Red blood corpuscles	6,130,000 per cubic millimetre.
Hæmoglobin	100·0 per cent.
Leucocytes	16,600 per cubic millimetre.
Polynuclears	57·4 per cent.
Lymphocytes	19·6 ,,
Large mononuclears	16·8 ,,
Transitionals	3·0 ,,
Eosinophiles	3·2 ,,
	100·0 ,,
Normoblasts	1·0 ,,

Red blood corpuscles appear normal in size and shape. Wassermann reaction positive, although not strongly marked.

I wish to thank Dr. Sunderland for having kindly given me a free hand with this child as regards examination and treatment.

DISCUSSION.

Dr. E. CAUTLEY said there were several questions which could be answered in different ways. His view was that there were cases of anæmia infantum occurring in syphilitic babies. Although fairly often there was a history of syphilis, in the majority of instances there was no history or evidence of that disease. In twenty-two cases investigated by Morse there was evidence of syphilis in only two. In his own cases, congenital syphilis had been extremely rare. Much the same remarks applied to the association of rickets with splenomegaly. Rickets occurred in children so commonly, that it could not be attributed as a cause of the splenic anæmia, which frequently occurred without any evidence of rickets. Possibly both originated from defective alimentation. He thought this case must be assumed to be one of splenic anæmia or pseudo-leukæmia, sometimes called von Jaksch's disease, occurring in a syphilitic child. The blood counts were exactly what were found in that condition. Improvement under treatment was also usual. His experience was that syphilis rarely caused great enlargement of the spleen. If there was great enlargement, it occurred in very early life and the liver was also large; in fact, one found visceral syphilis, and the child soon died.

Dr. POYNTON asked whether Dr. Cautley considered that the splenic anæmia of von Jaksch was a definite disease? He expected the spleen to be as large in some syphilitic cases as in von Jaksch's disease. One of the worst cases he had seen—it was published by Dr. Voelcker in the Medical Society's *Transactions*—was cured by the use of antisyphilitic remedies. He did not see why one should not regard congenital syphilis as one of the causes of von Jaksch's anæmia. He believed that the day of classifying these diseases by blood counts had gone by, and that the whole clinical picture and history was of more importance.

Case of Double-retained Testicle in which the Left Testicle was Transplanted to the Right Side of the Scrotum and the Right Testicle to the Left Side.

By PHILIP TURNER, M.S.

W. T., AGED 12 years, was admitted to hospital on May 17 for double inguinal hernia with imperfectly descended testicles. Both testicles, which appeared to be ill-developed, could be palpated in the inguinal canals; they had never descended below the external abdominal rings. The following operation was performed: The right sac and spermatic cord were exposed by a small incision through the external

oblique just above the internal abdominal ring. The hernial sac was separated from the vas and veins as far as the internal ring, and there ligatured. By traction on the distal part of the sac the testicle was drawn through the small incision in the external oblique. The sac was then ligatured immediately above the tunica vaginalis and removed. The remains of the gubernaculum were then transfixed, ligatured and divided, the ends of the suture being left long. The testicle, enclosed in the tunica vaginalis, was now, except for its connexion with the spermatic cord, quite free. An incision about an inch long was then made over the front of the left side of the scrotum. The free ends of the ligature transfixing the gubernaculum were then seized with Spencer Wells's forceps, which were then introduced through the incision in the external oblique, pushed along the inguinal canal, through the external ring into the right side of the scrotum. The ends of the forceps were then made to impinge against the scrotal septum. A small incision was now made on the forceps through the wound in the left side of the scrotum. The forceps carrying the ligature were pushed through to the left side and the ends of the ligature secured. The forceps were then withdrawn, and by pulling in the ligature the right testicle was drawn along the track made by the forceps along the inguinal canal, through the scrotal septum to the left side of the scrotum. Both wounds were then closed.

The patient was readmitted two months later, and the left testicle was then transplanted to the right side of the scrotum by a similar operation.

No sutures are necessary for the fixation of the testicle in its new position, the contraction of the opening in the septum preventing its return and exercising a gentle continuous traction which is absent in the ordinary method of orchidopexy.

Double Undescended Testicle; Right Testicle Transplanted to the Left Side of the Scrotum.

By Philip Turner, M.S.

J. T., aged 14 years, was admitted to hospital on April 20, 1914, for double undescended testicle with inguinal hernia. Both testicles could be felt in the inguinal canal, and neither had ever descended below the external abdominal ring. Two days after admission the

right testicle was transplanted through the septum of the scrotum to the left side, by the method described in the preceding case. The testicle, which is now of fair size, has never shown any tendency to return to its former position, and now hangs freely and easily in the scrotum. It is proposed shortly to repeat this operation on the left testicle, which can at present be palpated in the inguinal canal.

I have shown these two cases in order to bring to the notice of the Section this method of treating an imperfectly descended testicle by transplanting it to the opposite side of the scrotum. The treatment of these cases is always difficult, and the results of the ordinary method of orchidopexy, in which the undescended organ is transplanted to the corresponding side of the scrotum and fixed there by sutures, will generally be admitted to be very unsatisfactory. Generally the testicle either atrophies, or when the sutures have been absorbed or cut through, returns to its original position. Indeed, many surgeons, when the deformity is unilateral, excise the testicle rather than attempt to preserve an organ the function of which is probably impaired. However, this can scarcely be considered when the deformity is bilateral, and hence in these cases the testicle is sometimes pushed up into the abdominal cavity. The latter proceeding can scarcely be regarded as desirable, and even when the deformity is unilateral conservative treatment, if it can be effectively carried out, is preferable to excision. Most men would prefer to have both testicles in the scrotum, even if one is small and ill-developed.

When only one testicle is undescended the corresponding side of the scrotum will be very poorly developed; the opposite side, which contains a normal testicle, will be well developed, and is far better able to enclose a second testicle than the poorly developed side which has never received the undescended organ. In these cases, after removing the hernial sac, I transplant the retained testicle through the septum of the scrotum to the well-developed side by the method which I have indicated in these notes. When the deformity is bilateral I repeat the operation for the opposite testicle after a period of two or three months.

Though an undescended testicle is able to produce the internal secretion necessary for the development of secondary male sexual characters, there is no doubt that in the majority of cases it is functionless as regards the formation of spermatozoa. This is by no means always the case, and it is still an open question whether such an organ, if successfully transplanted to the scrotum, may not undergo a normal

development, especially if the operation is undertaken before puberty. In several of my cases the transplanted organ certainly has increased in size—for instance, in one of the testicles of the patient W. T. I cannot help thinking that one of the reasons for atrophy so frequently occurring after the ordinary operation of orchidopexy is the rough handling which the testicle itself receives. This, and the fact that sutures pass through it, must produce a good deal of inflammation. Another drawback to the ordinary method of fixation is the absence of any long-continued force tending to keep the organ in its new position. The action of the sutures, however passed and secured, can only be temporary. The division of the vessels of the spermatic cord, which is nearly always necessary, must also greatly increase the tendency to atrophy.

The advantages of transplantation to the opposite side of the scrotum in the way I have indicated are as follows:—

(1) The testicle is transplanted to the well-developed side of the scrotum, where there is much better accommodation for it than on the ill-developed side.

(2) It is usually possible to effect the transplantation without dividing the vessels of the cord.

(3) Sutures to fix the testicle in its new position are unnecessary, and the organ itself is not damaged during the operation.

(4) When the testicle has been drawn through the septum in the scrotum the small opening contracts, and hence the weight of the scrotum acting through the septum exerts a continuous slight force tending to keep the testicle in its new position.

(5) The operation is carried out without dividing the external abdominal ring and with the least possible damage to normal tissues.

As regards results, there is no doubt that the transplanted testicle remains in the scrotum, and, as already pointed out, in some cases there appears to have been some development.

Case of Cleido-cranio-dysostosis in which the Removal of the Outer Part of the Imperfect Right Clavicle relieved Severe Symptoms from Pressure on the Brachial Plexus.

By F. J. Poynton, M.D., and H. Morriston Davies, F.R.C.S.

This patient, a girl, aged 20 years, was reported originally by Dr. Spriggs in the *Lancet*.[1]

In December, 1913, she was shown by Dr. Poynton at the Clinical Section for an opinion as to the best method of treatment of severe symptoms pointing to pressure on the right brachial plexus. A description of the patient's appearance and disabilities will be found in both the reports referred to.

Her work as a dressmaker had been interfered with by severe shooting pains down the inner side of the arm and over the front of the chest. There was marked loss of power in the right hand, and much circulatory disturbance. When the shoulder was depressed the right pulse was diminished in volume, a sign which assisted in the exclusion of syringomyelia, a condition which has been described in association with this form of dysostosis.

Mr. Davies removed the outer fragment of the clavicle, and when the patient left the hospital there was already improvement. She has been completely free of the severe neuralgic pains, her hand has recovered power, and she has resumed her occupation. The only complaint now is of a dull ache in both shoulders, brought on by the long hours during which she sits in a position sewing over her work that tends to make the shoulders "over-stoop." This is relieved by sitting up with the shoulders braced back, and is of an entirely different nature to the former trouble, which was caused by the inner end of the outer fragment of the right clavicle pressing back on the nerves.

[1] *Lancet*, 1907, ii, p. 1599.

Case of Pseudo-rachitic Achondroplasia.

By FREDERICK LANGMEAD, M.D.

E. W., FEMALE, aged 6 months, was first seen at Great Ormond Street Hospital when aged 9 weeks. Many characteristic signs of rickets were present—viz., lateral grooving of the chest, Harrison's sulcus, beading of the ribs, everted costal margin, prominent abdomen, cat back, enlargement of epiphyses, curving of the tibiæ, and some bossing of the head; in fact, signs such that if occurring in an older child, a diagnosis of rickets would have been arrived at without hesitation. There is, however, considerable limitation in the mobility of the joints, the opposite to what obtains in rickets. The legs were disproportionately short compared with the body, and the finger-tips, with arms extended, reached only to just below the crest of the ilium. On this account the provisional diagnosis of achondroplasia had been made, although the head and face have not the characteristic appearance of it, nor is there anything characteristic about the hands.

The case is shown because it so nearly fits the old term "fœtal rickets." Many multiple nævi were present which have been treated. During observation the child has had broncho-pneumonia.

DISCUSSION.

The PRESIDENT said he did not know whether Dr. Langmead wished to adhere to the name achondroplasia. He (the speaker) did not think one would apply that name to it at the present moment. Though the limbs were short, there was no disproportion between the length of the humerus and femur and the bones below the elbow and knee respectively.

Dr. G. A. SUTHERLAND agreed with the President that the child was at present suffering from rickets, not from achondroplasia at all. Dr. Langmead saw the child at the age of 2 weeks, and it then had some sign of rickets; but members naturally could not express an opinion on the condition of the child at that age; only on what the features of the case were now.

Dr. LANGMEAD replied that he would have been glad to hear what was the earliest age at which rickets could be diagnosed. If he were told that it could be well developed at the age of 9 weeks, he could not agree. There was no doubt that a form of achondroplasia existed, described as the pseudo-achitic type, which closely simulated rickets. He adhered to his suggested diagnosis as being the most probable one.

Seasonal Enlargement of the Parotid Glands.

By PHILIP TURNER, M.S.

J. V., AGED 13 years, has an enlargement of both parotid glands. He has been an inmate of the East London Industrial School, Lewisham, for the past three and a half years. Dr. Farmer, the Medical Officer, states that both parotid glands during the time he has had him under observation have enlarged and become painful and tender every autumn and spring. They remain enlarged for some weeks and then gradually subside, but never quite reach the normal size. There was slight pain on opening the mouth. The other salivary glands are not affected. The only other abnormality that has been noticed is that the boy is unduly sensitive to cold. The boy himself states that the enlargement of the glands has occurred twice yearly for nine years. The condition had been observed by Dr. Farmer to occur for three years.

DISCUSSION.

Mr. TURNER added that he did not see the child until it attended that day; it was sent by a colleague. He had never seen an identical case.

Dr. C. O. HAWTHORNE asked whether the boy complained of thirst or dryness of the mouth. Cases of recurring enlargement of the parotid glands with dryness of the mouth had been recorded by the late Sir Jonathan Hutchinson, who was much interested in the condition; the records are to be found in his "Archives of Surgery."

Dr. G. A. SUTHERLAND said the seasonal enlargement of the glands was a striking feature. The President had had to deal with so-called Mikulicz's disease; was there anything in the histories of cases of the latter disease suggesting periodical enlargement of the gland?

The PRESIDENT and Mr. TURNER replied to Dr. Sutherland's question in the negative.

Case of Acholuric Jaundice.

By C. O. HAWTHORNE, M.D.

K. B., FEMALE, aged 1 year 3 months. First-born child; said to have been jaundiced since soon after birth. No family history can yet be obtained. Jaundice, considerable enlargement of spleen, some enlargement of liver, no bile in urine, stools normal, blood (Dr. Perkins) gives 14,500 white cells (polymorphs 44·8, small lymphocytes 47·2, large mononuclears 6·8), otherwise not noteworthy; blood serum contains bile pigment.

Case of Paramyoclonus Multiplex.

By C. O. HAWTHORNE, M.D.

BOY, aged 6 years. Said to have been "jerky" since birth, but much worse lately. There are frequent quick, clonic muscular contractions, most marked in the abdominal muscles, but seen also in the shoulders, upper arms, thighs, and cremaster muscles; the facial muscles are affected in some measure. The contractions are bilateral in distribution, but corresponding muscles on the two sides are by no means always affected at one and the same moment.

No family history of rheumatism or chorea or epilepsy.

Section for the Study of Disease in Children.

December 11, 1914.

Mr. T. H. Kellock, President of the Section, in the Chair.

? Aortic Disease.

By F. J. Poynton, M.D.

The interest of this case lies in the entire absence of any history of heart disease or cause for heart disease except tonsillitis, and in the exact interpretation of the physical signs.

G. S. M., aged 5 years. Sent up to hospital by school medical officer for heart disease. For two years the mother has noticed that the child soon gets tired and breathless on exertion. No history of rheumatism in child or parents. No fever. Tonsils very large and almost meeting. Pulse somewhat irregular, 84, and *strikingly small in volume.* Heart apex ½ in. int. to V.N.L., fourth space. No apparent enlargement, and the impulse not forcible. Apex: First sound short, and systolic murmur. Aortic cartilage: Rasping systolic murmur conducted upward and outward. No thrill over its maximum. This murmur, traced towards the apex, gets fainter, and then the apical murmur is heard increasing in intensity to the apex. It would seem that these were two different systolic murmurs. The basal murmur can be heard at the pulmonary base, but is fainter there than in the aortic region.

The child, in other respects, does not seem to have any signs of illness. The question arises as to the interpretation of the basal murmur. Is it due to some chronic aortic endocarditis producing slight stenosis without aortic regurgitation, the result of an infection from the tonsils, is it of no organic significance, or is it congenital?

DISCUSSION.

Dr. POYNTON added that a number of opinions had been expressed about this case; he felt he ought to give his also. He regarded it as a slight mitral regurgitation with aortic stenosis.

Dr. ROBERT HUTCHISON said it was a difficult case to be sure about, but he shared Dr. Poynton's view. He thought there was a presystolic murmur at the apex, as well as a systolic. If others agreed as to that, he thought it would constitute strong evidence in favour of the lesion being acquired. The breathlessness and the large tonsils pointed in the same direction. There had probably been infection through the tonsils, and it seemed to be an acquired lesion, the result of endocarditis. He did not know whether to call it rheumatic or not.

Dr. G. A. SUTHERLAND said that all basal murmurs in children were difficult to decide upon as to the exact site of origin, especially as, at the clinical meetings, there were only limited opportunities for examination. There was no evidence here of change in the size of the heart, nor had any symptoms been referred to. With regard to the question of the presence of a presystolic murmur, he would like to hear from Dr. Hutchison whether he found such a murmur a common incident in a child aged 5 years. He (the speaker) thought that, in this patient, there was a basic systolic murmur of little importance.

Nine Patches of Morphœa in a Child.

By J. L. BUNCH, M.D.

THE patient, a girl, aged 11 years, developed the first lesion a few weeks ago, just below the left iliac crest. It showed itself as a dense, yellowish-white small patch, with no suspicion of redness or coloured border, and it has retained these characteristics while spreading to its present size of 2¼ in. by 1½ in. The outline is sharp, and, to the touch, the skin is distinctly harder than the healthy skin surrounding it. Since the appearance of this patch eight other similar, but smaller, lesions have appeared on the chest, back, and shoulders. The face is free. The sweat glands do not appear to function over the area of these lesions. None of the lesions show any sign of coalescing. The number, distribution, small size, and rapidity of development of the lesions seem to bring the case within the category of the rare disease morphœa guttata, or white-spot disease. There is no evidence of peripheral neuritis or ganglionic lesion.

Generalised Ichthyosis.

By J. L. BUNCH, M.D.

THE disease has been present since birth, and the child is now aged 8 years. The extensor surfaces are most markedly affected, but the disease also involves the flexor aspects and the face to a less extent. The epidermis is thickened and pigmented, the surface is covered with a coarse scaliness, and there is pronounced follicular keratosis. The skin is dry, harsh, and rough, is wanting in elasticity, and the natural lines of the skin are exaggerated. The dirty-greyish appearance of the skin cannot be removed by any external applications. Subjective symptoms are practically absent.

DISCUSSION.

Dr. J. L. BUNCH said these were examples of sclerodermia—one localised, one diffuse—and they differed clinically as much as could well be. Dr. Goffe told him he had had similar cases of generalised ichthyosis in hospital which were admitted there for scarlet fever, and in which as a result of the usual peeling after scarlatina the symptoms had disappeared, at least temporarily. The second case seemed to be a very rare disease. It seemed to correspond with the description by American dermatologists under the name "white-spot disease." Only a few cases of this disease seemed to have been recorded.

Dr. E. L. GOFFE said the cases referred to by Dr. Bunch were two members of the same family, who were admitted for scarlet fever. They had, on admission, the exact appearance of Dr. Bunch's case of generalised ichthyosis, together with a bright punctiform erythema, sore throat, and high temperature. They went through the process of peeling all over the body, including the hands and feet. The condition of the skin improved during the early desquamating stage of scarlet fever, but towards the end of their stay in hospital—about seven weeks—the ichthyotic appearance began to return.

Dr. POYNTON said that the second case was so rare that it would be interesting to learn what had happened to the other cases of "white-spot disease."

Dr. THURSFIELD asked whether there was any relation between cases of this kind, in which there was a definite thickening of the skin with, apparently, a tendency to inflammatory reaction surrounding the white patches, and the cases of loss of pigment which one saw in children from time to time—a simple leucodermia, without inflammatory thickening. Was anything known of the pathology of either condition?

Dr. BUNCH replied that the pathology of morphœa and vitiligo was not accurately known. The usual view was that morphœa was due to a ganglionic condition, and ichthyosis was perhaps due to peripheral neuritis. They differed from vitiligo inasmuch as the skin was hard in sclerodermia, whereas it was not changed in vitiligo in respect to textural structure. In one or more of the American cases the white spots had later developed into typical morphœa lesions, with the usual induration and clinical appearances.

Case of Myatonia Congenita with Dilatation of Colon.

By G. A. SUTHERLAND, M.D.

A. C., MALE, aged 2 years.

(1) Was admitted because of an abdominal swelling; the abdomen had been noticed to be very large. Bowels usually constipated; recently motions loose, scanty, offensive. A large swelling occupied the right side of the abdomen and extended into the iliac region on the left side; apparently fæcal. Anal orifice very small and tight. X-ray shows great dilatation of colon. Abdominal mass removed by enemata, &c., and sphincter ani forcibly dilated. Great improvement as regards action of the bowels and size of abdomen.

(2) Child can sit up, but cannot stand or pull himself into erect posture. Can stand with support. Muscles small and markedly hypotonic. Joints very flaccid. Knee-jerks not elicited. No marked rickets.

(3) A peculiarly apathetic, placid infant. Never talks, but babbles a little to himself, and smiles. ? State of mental backwardness.

DISCUSSION.

Dr. SUTHERLAND added that the condition of the abdomen made him think of Hirschsprung's disease. After Mr. Murray had dilated the sphincter the bowels began to act naturally, though they had never previously done so. That continued until a fortnight ago, when constipation came on. He believed that in Hirschsprung's disease usually there was no cause ascertained for obstruction, and he wondered whether the stretching of the sphincter in this case, and the result which followed, showed that the fault was with the sphincter. He invited views on that point.

Dr. E. CAUTLEY asked for a clearer description of the nature of the abdominal tumour. He asked, because, a fortnight ago, he had a baby under

care, aged 14 months, with abdominal tumour and great distension of the abdomen. The tumour was on the right side and somewhat superficial, but the general distension made it difficult to be certain of its extent and character. There was a history of constipation, and, as the result of treatment by enemata, some semi-solid fæces were passed. When he saw the child a few days later the tumour was more obvious, and he thought that was because of the reduction of the flatulent distension. It extended from the right costal margin to the pubes, but one could get the finger between it and the liver. He remarked to his resident medical officer that it felt like an enlarged spleen on the wrong side, but it extended into the loin like a renal tumour. As it was very hard he left a request for a surgeon to see the child, with the idea of having an exploration done, as it might possibly be sarcoma of the kidney. His first diagnosis was a tuberculous gland, with matting of intestines. He ordered ½ gr. of hydrarg. cum cretâ night and morning, and sulpho-carbolate of soda for the distension, and, four days later, the tumour had disappeared. Yet the tumour had been so hard that he could not indent it. He had never felt such a hard fæcal tumour in a child so young, nor a sarcoma of the kidney of such a firm consistency. The rapid variations in size indicated fæcal accumulation, but there were no excessive stools during its disappearance, and no scybala were present.

The PRESIDENT (Mr. T. H. Kellock) asked what was the nature of the stricture of the anus; whether it was congenital, because the rest of the child's muscles were so flabby that one could hardly imagine the sphincter alone was in a state of clonic contraction. The musculature of the rectum was often at fault in a case of congenital malformation at the anus.

Dr. LEONARD GUTHRIE asked why Dr. Sutherland described the case as myatonia congenita, and whether he referred it to the class of cases first described by Oppenheimer; and since recognised by Batten and others as cases of congenital muscular dystrophy. There was little evidence of that disease in this case; there was simply considerable myatonia, not more than met with in certain cases of rickets, in which the osseous changes were slight.

Dr. SUTHERLAND replied that if it was merely a case of constipation it merited the name of uncommon constipation; it was not the kind ordinarily met with in a child. Dr. Cautley had asked him how he knew the tumour was fæcal. His own note said there was a large, soft, semi-solid feeling mass in the situation indicated, not tender, very soft on pressure, and pitting markedly; it could be put into any shape—i.e., it felt like a mass of clay, and the outline was altered by manipulation but soon recovered its original shape. At the time he thought there was little doubt that it was fæcal. The case described by Dr. Cautley was a very puzzling one, and he could not throw any light upon the disappearance of such a tumour; it could not have been a fæcal tumour. In answer to the President, there was atony in all the muscles of the extremities, but he did not see why, despite this, the sphincter ani should not be in

a state of spasmodic contraction. It had a very special nerve supply, a branch of the long pudic, and it was not uncommon, amongst other congenital lesions, to find a considerable amount of sphincter spasm in young infants. He had suggested the possibility that the contraction of the sphincter might have had something to do with the dilatation of the colon above. If Dr. Guthrie, with his knowledge of myatonia congenita of Oppenheimer, considered it was not an example of that disease, he was content to accept the statement. He put that title to the case rather than that of rickety hypotonicity, for two reasons: first, the condition of hypotonicity was out of proportion to the other signs of rickets about this child, and he felt sceptical about the diagnosis of a general disease such as rickets, in which one class of symptoms was so very preponderant, while all the others were absent; secondly, there was the absence of the knee-jerk, a very unusual feature in a child of this age.

Hypertrophy of the Gums.

By Robert Hutchison, M.D.

J. C., aged 5 years, has had enlarged gums all his life, which now make it impossible for him to shut his mouth properly. The gums are greatly hypertrophied, the teeth being almost buried in them. Pus can

Hypertrophy of the gums.

be squeezed out from around some of the teeth. The boy seems otherwise in good health.

Dr. Hutchison added that he had never seen a case of the kind before, but dental surgeons occasionally saw them; and he wished to elicit the experience of any who had had a case of the kind operated upon. The skiagram showed the bones to be quite unaffected.

DISCUSSION.

The PRESIDENT asked whether there was here any connexion between the bad condition of the teeth and the hypertrophy and suppuration of the gums. If so, the first step in treatment seemed to be to get the stumps of the teeth removed, and so get rid of the sepsis about them. It would be interesting to take out some of the stumps, say on one side of the lower jaw, to see if any improvement followed. It could then be seen whether it was a local condition caused by the condition of the teeth.

Dr. F. PARKES WEBER drew attention to the scarcity in medical literature of records of cases of extreme hypertrophy of the gums. Hypertrophy of gums occurred in the remarkable family series of cases of molluscum fibrosum in children described by John Murray in 1873,[1] and afterwards by A. Whitfield and A. H. Robinson in 1903.[2] In that series the condition of the gums appeared to be primarily due to the molluscous fibromatous disease. Secondary inflammatory changes would doubtless occur in hypertrophy of gums (just as a kind of chronic superficial glossitis was commonly present in many cases of congenital "fissured tongue"—so-called "scrotal tongue"—and probably due to the retention of debris of food in the clefts).

Dr. THURSFIELD said that four years ago he had a similar case, which he handed over to his dental colleague, Mr. James, who extracted the teeth and pared the gums. That gentleman's opinion was, in his recollection, that such hypertrophies were all fibrotic, the result of an inflammatory lesion in the gums. He did not think the term "congenital" was legitimately applied to the condition at all. He had found in the literature that hardly any cases were recorded below the age of 4 or 5 years. If the condition were congenital, one would have expected records of cases before that age. Unless there was a very complete history in this case of existence from birth, he would incline to believe that the hypertrophy was inflammatory.

Dr. HUTCHISON replied that the mother's account left little doubt that the hypertrophy of the gums preceded the appearance of teeth; the latter had never been able to force themselves beyond the gum surface; they were

[1] *Med.-Chir. Trans.*, Lond., 1873, lvi, p. 235.

[2] *Ibid.*, 1903, lxxxvi, p. 293.

somewhat carious, and probably would come out. If this condition were the result of sepsis of the gum, or of pyorrhœa alveolaris, one would expect it to be commoner than was the case. His leaning was to the congenital view; that it was comparable to macroglossia, and, if it were a permissible term, one could call it gigantism of gums.

Pulsating Tumour of the Scalp.

By Philip Turner, M.S.

V. B., aged 18 years, has had for the past nine years a pulsating swelling of the scalp. This appeared shortly after a fall in which she struck her head against a concrete floor. She was not unconscious after the fall and there were no symptoms of concussion and no open wound of the scalp. The tumour has caused no symptoms, but has increased slightly in size. Three or four months ago the skin over the swelling ulcerated and became very septic, but there was no hæmorrhage; but as the result of treatment the ulceration soon began to heal. There is now a soft, pulsating swelling occupying the occipital region and extending nearly to the vertex. An X-ray examination has been made and this shows no opening in the bone, though the surface appears irregular and grooved.

DISCUSSION.

Mr. Turner added that a thrill was occasional; it was not always present. Also there was a well-marked bruit over the tumour, and the President pointed out to him that if one traced the bruit downwards, it stopped suddenly at the point where the occipital artery became superficial. The condition of the patient three months ago was very different from that now seen, and when first seen he thought it was a cystic condition, the cyst containing cerebrospinal fluid, the result of the original injury. But with the improvement in the condition his view now was that it was cirsoid aneurysm; the outline of some of the dilated vessels could be both seen and felt. The tumour seemed definitely to have appeared immediately after an injury; the mother took it to be a bump, but instead of disappearing after a time it continued to increase. There was a scab still on part of the swelling, and he intended to wait until healing had occurred, and then excise the whole tumour. He hoped that the chief blood supply came from the lower extremity, and if the big vessels in that situation were secured, the bleeding would, he hoped, be easily controlled.

The President said the connexion between cirsoid aneurysm and injury of the scalp was interesting, because he thought it had been attributed to

injury to an artery. They were seldom found in young children, chiefly occurring in young adults. He agreed with Mr. Turner's diagnosis, and it was the commonest situation for the condition. They usually got larger, yet apparently spontaneous hæmorrhage from them was very rare. He asked why operation should be delayed because there was a patch of ulceration. It could be sterilised, and obviously something should be done at once as it was increasing. He suggested making a peripheral incision, distal from the occipital artery, turning back a flap containing this, and secure vessels from the skull side of the tumour when everted; there would then be less hæmorrhage than from trying to attack the feeding vessels first. Frequently these vessels were tied, but cessation of the bleeding had not always been brought about by that.

Dr. MILNER BURGESS said he had a similar case connected with the anterior temporal artery, following upon traumatism, and it was operated upon successfully by the late Mr. Macready.

Mr. PHILIP TURNER replied that he thought that the term "cirsoid aneurysm" was rather loosely used, and that there were sometimes abnormal communications between arteries and veins.

Cerebral Embolism in Diphtheria.

By J. D. ROLLESTON, M.D.

GIRL, aged 8 years, was admitted to hospital on October 24 with severe faucial and nasal diphtheria on the third day of the disease. Large doses of antitoxin were given, and the throat became clean on October 28, but the same day the heart, hitherto normal, showed some dilatation and weakness of the first sound. The voice became nasal on October 30.

At 11.15 a.m. on November 7 she retched, the respirations became rapid, the colour cyanosed, and a convulsive movement of the right arm and loss of consciousness ensued. Double ankle clonus and double extensor response were obtained. Both abdominal reflexes were lost, but the corneal reflex, though absent on the right, was active on the left side. A cardiogram (taken by Dr. E. B. Gunson) showed premature ventricular contractions. Pulse 115. On November 8 the pulse was 160, and during short paroxysms rose to 220 and 240. Until death, which occurred on November 9 about thirty-eight hours after the ictus, there was flaccid paralysis of both upper limbs and the left lower limb, with occasional convulsive movements of both upper limbs and more or less persistent rigidity of the right lower limb. Cheyne-Stokes breathing

was well marked. The temperature, which had been subnormal since October 28, rose to 101° F. after the ictus and was 103° F. the following day.

The specimen shows embolism of the basilar artery, of the superior cerebellar arteries, and to a greater or less extent of all the arteries entering into the formation of the circle of Willis—viz., the posterior cerebral, posterior communicating, internal carotid, anterior cerebral, and middle cerebral arteries. The lesions are much more marked on the right than on the left side. An ante-mortem clot was found in the left ventricle and a small infarct in the left kidney.

DISCUSSION.

Dr. ROLLESTON said the question had arisen as to why he called it embolism, instead of thrombosis. He did so because there was a definite heart lesion, and at the autopsy there was an ante-mortem clot in the left ventricle, and an infarct in the kidney. It was an unusual case of cerebral embolism, because in all the other cases he had seen or read of following diphtheria the process had been associated with hemiplegia. This case presented all the symptoms described by Osler as associated with obstruction of the basilar artery. In this case during life the conjunctival reflex was preserved on the left side and lost on the right; and that, he thought, was because the vascular obstruction was less on the left side.

Dr. E. CAUTLEY said he thought the nature of the clotting was more that of a primary thrombosis than embolism, and he did not think the small infarct found elsewhere was necessarily due to embolus. He asked whether Dr. Rolleston could form any estimate as to the duration of the ante-mortem clot in the heart, because the notes implied that there was some cardiac failure a considerable time before the sudden thrombosis or embolism. Also, what was the probable age of the infarct found in the left kidney? If the infarct was embolic it should be of more recent origin than the clot, on the supposition that both the infarct and the clot in the basilar artery were due to portions of detached ante-mortem clot.

Dr. ROLLESTON replied that he considered the infarct in the kidney was anterior to the clot in the cerebral vessels. It was very difficult to distinguish between embolism and thrombosis. In most of the cases of hemiplegia following diphtheria[1] the post-mortem findings had shown that it was due to embolism, not thrombosis: his other reason for calling the condition embolism was that there was another embolus elsewhere. In answer to Dr. Sutherland, here again he appealed to the literature; most of the cases of cerebral embolism in diphtheria had been attributed to apical endocarditis. He had not made a section of this specimen, but to the naked eye there was nothing very definite.

[1] *Proceedings*, 1913, vi (Clin. Sect.), p. 69.

Pericarditis in Scarlet Fever.

By E. B. GUNSON, M.D.

Clinical Note.—D. R., female, aged 15 years, was admitted to the Grove Hospital, suffering from scarlet fever, on the thirtieth day of disease. She had previously had measles, chicken-pox, and whooping-cough. She had never had rheumatic fever, but had had occasional "growing pains." On admission the temperature was subnormal. The patient was pale. The pulse was regular, with a rate of about 100 per minute. The heart was not enlarged. In the mitral area there was a short, sharp first sound, followed by a loud, rough systolic murmur, conducted to the axilla. Endocarditis was diagnosed, and the patient was kept in bed. The temperature remained subnormal until the thirty-fifth day, when it rose to 101° F. Slight pyrexia persisted. On the thirty-eighth day the pulse became irregular, owing to each alternate beat being due to a premature contraction. The arrhythmia persisted for two days only. On the fortieth day pericarditis developed, accompanied by arthritis. Death occurred on the forty-fourth day.

Pathological Note.—Post mortem the parietal and visceral layers of pericardium were completely but loosely adherent by recent fibrinous exudate. When the layers were separated and the exudate was detached, numerous small subepicardial hæmorrhages were disclosed. The heart muscle was pale. The cusps of the mitral and tricuspid valves were thickened and there were some recent vegetations on the mitral valve. The left auricle presented a patch of mural endocarditis. There were a few small patches of atheroma at the commencement of the aorta.

Microscopical Appearances.—The left auricle shows thickening of the endocardium, with areas of commencing necrosis; myocarditis; organising pericardial exudate containing a number of irregularly dilated capillaries. The right auricular muscle presents a similar appearance; the endocardium is healthy. The left ventricle shows acute myocarditis of mild degree.

Pericarditis from a Case of Scarlet Fever.

By E. G. L. Goffe, M.D.

Girl, aged 9 years, was admitted to hospital on October 9, 1914, suffering from scarlet fever. There was a previous history of rheumatism.

Condition on admission: Well-marked punctiform erythema of trunk and limbs; fauces enlarged; cervical adenitis; choreiform movements of face, right arm, and leg; temperature 102° F.

October 26: Double pericardial rub at base; presystolic and systolic apical bruit; increased area of cardiac dullness.

October 31: Pericardial rub more marked; area of cardiac dullness increased; choreiform movements marked.

November 1: Epistaxis and difficulty in swallowing. 5 p.m.: Cyanosis, rapid breathing, restlessness.

November 2, 1.50 a.m.: Death.

Dr. J. D. Rolleston said pericarditis was very rare in scarlet fever, rarer than some text-books led one to imagine. In the statistics of the Metropolitan Asylums Board for the ten years 1900-1909 the percentage of cases of pericarditis was only 0·10, and in both the present cases there was a question whether scarlet fever was responsible, at all events entirely. In Dr. Goffe's case there was a history of rheumatism, and in Dr. Gunson's the "growing pains" probably meant abortive rheumatic fever. Probably more cases occurred, but were latent.

Specimen of Perforation of the Arch of the Aorta by Safety Pin Impacted in the Œsophagus.

By E. G. L. Goffe, M.D.

C. A., female, aged 10 months. Admitted to North-Eastern Hospital, Tottenham, on February 18, 1912, certified to be suffering from scarlet fever.

History of case: No previous illness; sore throat, February 16; rash on chest, February 17.

On admission: Temperature 100° F., pulse 120, respiration 48, rash *nil*, throat *nil*, tongue furred, fretful.

As the diagnosis of scarlet fever was not confirmed on admission,

FIG. 1.

The œsophagus opened from behind.

FIG. 2.

The aorta opened from the front.

the child was sent to an isolation ward. It was seen again late the same evening, when the nurse reported that it was fretful and had vomited a little milk after each feed. At 12.30 p.m. next day

(February 19) the child vomited after a feed of milk and brought up a quantity of blood, and died.

No definite information could be obtained from the parents, who were music-hall artistes. They had never missed the safety pin, which was one of a type used to secure the child's napkin. From the information received I came to the conclusion that the child had swallowed the pin about three weeks before death.

The specimen shows the œsophagus, larynx, and trachea, with the arch of the aorta and the large vessels arising from it, with a brass safety pin in situ, as found post mortem. The œsophagus has been opened at the back. The pin is open, with the open end downwards. Viewing the œsophagus from behind, the catch half of the pin is seen in the œsophagus; the other half, having passed through the œsophagus, point downwards and forwards, is not seen. The pin portion passes to the left of the trachea on a level with its bifurcation. The œsophagus is perforated on its anterior surface about 2 in. from its upper extremity; the pin half, having passed completely through the wall of the œsophagus, is in a cavity which goes from the gullet to the aorta. The cavity is about $\frac{1}{4}$ in. across. The walls of the cavity are thickened. Viewing the specimen from the front there will be seen a perforation in the wall of the aorta, with the point of the pin just appearing through the hole (marked with a black speck) in the interior of the artery. The aorta is perforated about $\frac{1}{2}$ in. below the origin of the left subclavian. Death was due to hæmorrhage from the aorta, owing to ulceration set up in its walls by the presence of the pin in the tissues between the aorta and gullet. The bleeding was into the œsophagus. The stomach was full of blood, one large clot. There was little blood in the upper part of the small intestines. No blood, altered or unaltered, was found in the large intestines. The heart and blood-vessels were practically empty. All the tissues were pale and bloodless.

DISCUSSION.

Mr. PHILIP TURNER said it was a remarkably interesting case. He saw a somewhat similar one sixteen years ago. A girl, aged 18 years, was admitted under Sir James Goodhart for hæmatemesis; she had had two hæmorrhages, and the diagnosis was gastric ulcer. After being in hospital twenty-four hours she had a terrific hæmatemesis and died. She gave a history of having swallowed a chicken bone three or four weeks before, but she had had no trouble from that for some time. At the post-mortem the bone was found. It had ulcerated through from the œsophagus, and had opened the aorta in the same place as the pin had in the present case—i.e., just beyond the origin of the left subclavian artery.

Dr. J. D. ROLLESTON said cases of foreign bodies in the air or food passages seldom found their way into fever hospitals. In the Asylum Board statistics for the last fifteen years (1899-1913) there were only six, which had all been certified as cases of diphtheria; three were foreign bodies in the larynx, two in the œsophagus, and one in a bronchus.

Dr. GOFFE replied that possibly one of the six cases mentioned by Dr. Rolleston was this one, as it occurred at one of the Asylums Board hospitals in 1912. In this case there was no history of a foreign body, and there were no symptoms pointing to such a condition. The child's parents were away from home at the time, and the child was being looked after by the grandmother, apparently in a casual way.

Case of Liver Abscess in an Infant.

By ERIC PRITCHARD, M.D., and C. VIOLET TURNER, M.B.

A MALE infant, aged 5 weeks, healthy at birth, jaundiced at 4 days old for nearly a fortnight. Abdomen always prominent; became much more distended five days before admission to hospital, with dilated veins, swelling of feet, legs, scrotum, and penis three days.

On admission: Temperature 97° F.; did not appear very ill. Abdomen very distended; liver enlarged to umbilicus, greatest enlargement in right flank. Œdema of abdominal wall, back, legs, scrotum, and penis.

Twenty-four hours after admission, temperature 101° F. Skin of abdomen became purple and began to slough; no vomiting; death.

Post mortem: Liver abscess size of an orange in right lobe. No other source of suppuration found; slight recent peritonitis; all other organs healthy. The pus from abscess grew *Bacillus coli* and a Gram-negative diplococcus. Culture from the heart's blood grew *Bacillus coli*.

DISCUSSION.

The PRESIDENT asked whether the pus was examined, and, if so, what was found in it. He suggested the possibility of there being streptothrix, as one found actinomycosis in unexpected places.

Dr. VIOLET TURNER, in reply, said the pus was examined, and the direct films showed *Bacillus coli* and a diplococcus; no actinomycosis was found.

Section for the Study of Disease in Children.

January 22, 1915.

Mr. T. H. Kellock, M.C., President of the Section, in the Chair.

Case of Congenital Syphilis.

By F. D. Saner, M.B.

S. C., aged 9 years. The history of this case previous to admission two months ago is extremely vague. The child was apparently quite healthy until just over two years ago, when the mother sought advice on account of some pain and stiffness in the left elbow and ankle-joint. The child was treated for "arthritis." Some months later a small hard lump appeared about the centre of the forehead, which gradually enlarged and finally ulcerated. The left leg became very deformed, and for nine months before admission she was unable to walk.

No specific treatment had been given until the child was admitted to hospital on November 11, 1914. She was then extremely wasted and anæmic, did not eat or sleep. There was a large, circular, foul-smelling ulcer, with a sloughy base, in the centre of the forehead, quite half as large again as the present condition. It is now at least 2 in. in diameter and is practically circular. The eyes were almost closed from œdema of the upper lids. The liver and spleen were distinctly palpable and still are. Wassermann's reaction was positive. Since admission hyd. c̄ creta 1 gr. has been given three times a day, and an inunction of ung. hydrarg. ½ dr. once daily. In addition, pot. iod. 5 gr. c̄ inf. gentian co. ad. 2 dr., t.d.s., has been given, and sanitas fomentations to the forehead. A hydrogen peroxide mouth-wash has been used, and the treatment has been very well borne.

The child has gained 12 lb. in weight since admission, her appetite is good, and now she plays and sleeps well.

DISCUSSION.

Mr. SANER said he would be glad of advice as to the further treatment of the child. For more than two years she had no specific treatment. During the last two months she had had mercury, both in pill form and by inunction. The Wassermann reaction was still positive. He would like advice as to whether salvarsan could safely be given.

The PRESIDENT (Mr. T. H. Kellock, M.C.) said that an interesting point was that the child was healthy until two years ago. Apparently this child, like many congenital syphilitics, showed no evidence of disease until rather late, and then many bones became affected, as it was common to find in these cases. He thought that the possibility of there being exfoliation of bone inside as well as outside the skull would rather militate against the use of salvarsan, for intracranial trouble might arise if the exfoliation of bone inside the skull were brought about too rapidly. As the child was now improving so markedly it would seem wiser to continue the present treatment and see how far the improvement would go.

Dr. F. PARKES WEBER said that cases in which the manifestations of congenital syphilis first attracted attention relatively late in a child's life were very interesting. In the present case he wished to draw attention to the large growth of the left tibia, which had occurred without the child suffering particular pain. One would have supposed that an accompaniment of such bone disease would have been great pain sufficient to keep the child awake at night. But as a matter of fact, in the most typical cases of this kind there was scarcely any pain or tenderness in the affected bones. Sometimes the disease was symmetrical in the two tibiæ, and such a case would much resemble osteitis deformans in adults. He had contributed a short note to the *British Journal of Children's Diseases* (when it was edited by Dr. Carpenter) on the condition in question, speaking of it as so-called "osteitis deformans" of congenital syphilis.[1] Some French writers had, he believed, suggested that all cases of osteitis deformans in adults were due to syphilis. That view, however, he regarded as untenable. The case of congenital syphilis to which he had referred was that of a boy who presented a most remarkable appearance, because both tibiæ were very long, the legs below his knees looked much too long and thick in comparison with his thighs and the rest of his body, having increased abnormally in length owing to the chronic inflammation. The bone disease began to show itself when the boy was aged 7 years. It was only later, when he was aged about 14 years, that the development of gummata made its syphilitic origin quite obvious to all. The prognosis in such cases was not, he believed, as bad as one would expect; he had been informed that

[1] F. P. Weber, "A Note on Congenital Syphilitic 'Osteitis Deformans,'" *Brit. Journ. Child. Dis.*, Lond., 1908, v, p. 83.

the above-mentioned boy had grown up to manhood. In Mr. Saner's case, if there were no contra-indications to salvarsan or neo-salvarsan he did not see why small doses of it should not be given intravenously, though he agreed with the President that if there were disease of bone inside the cranium one would hesitate about giving it.

Mr. SANER replied that there was no evidence of bone changes inside the skull: an X-ray examination of the skull had been made which showed destruction of the outer table of the frontal bone. There were no other symptoms of intracranial trouble.

Case of Enlarged Liver in a Boy, aged 15 Years.

By H. W. BARBER, M.D., and F. D. SANER, M.B.

C. P., AGED 15 years, was admitted to hospital on December 27, 1914, for pain in the right side, which had only been present for a few days. The boy is of average development for his age and there is no history of any previous illnesses. On examination the liver is found to be considerably enlarged; on the right side its lower border nearly reaches the iliac crest; in the mid-line its lower margin is just below the umbilicus, and it can be traced to the left costal margin at the level of the ninth costal cartilage. The spleen is not enlarged. The Wassermann reaction is positive. There is no eosinophilia.

DISCUSSION.

Dr. ROBERT HUTCHISON thought the most probable diagnosis was that it was a syphilitic liver of some kind, there was a positive Wassermann's reaction, and the child had the facies of congenital syphilis. With regard to the pathological condition of the liver, he thought it was waxy, at least partially, and might be gummatous also. He could not feel the spleen, and it did not appear to be enlarged, and none of the other viscera seemed to be affected.

Dr. PORTER PARKINSON thought that the liver being apparently the only organ affected by syphilis was not against the diagnosis that the condition was syphilitic. That disease often seemed to attack one particular organ and expend its energy upon it without spreading generally. Sometimes it picked out one bone, sometimes a gumma was present in only one organ. In a recent case a gumma was found in the heart of a child, and there was no evidence of syphilis elsewhere. Commonly the spleen was enlarged in syphilitic children, without any other organ showing change. He believed that the effect of anti-syphilitic treatment by mercury and iodide of potassium in this case would be a considerable reduction in the size of the liver.

Mr. PHILIP TURNER said he thought one of the most striking things about the case was the way in which the costal margin and the lower ribs were displaced on the right side. On looking at the child from a distance, it was obvious that there was some displacement of the costal margin. He did not remember having seen anything like that in a case of syphilitic liver before, and he would like to hear if other members had.

Postscript.—On February 9 Mr. Turner opened the abdomen and found that the liver was not enlarged and that the swelling was in the right upper renal region, being in all probability a hypernephroma. The liver itself was displaced towards the left hypochondrium.

Hæmatoma of the Lower Lid in an Infant, aged 5 Months (an Unusual Manifestation of Infantile Scurvy).

By SYDNEY STEPHENSON, C.M.

K. S., AGED 5 months, was brought to the Eye Department of the Queen's Hospital for Children, London, on January 7, 1915.

The history of the case was to the effect that the infant did well until the middle of last December, when she developed "thrush," diarrhœa and vomiting, symptoms from which she made a fair recovery in the course of about a fortnight. On January 3 a small black spot or line was noticed in the skin of the right lower eyelid. There had been no injury to the parts. No especial importance was attached to the mark. But on the following morning the eyelid was swollen and discoloured, and since then no particular change has been noticed in the condition of the parts. On January 6, the day before the infant attended the hospital, the medical practitioner, under whom the patient had been, made a puncture into the distended lower lid, resulting in the escape of what is described as "blood and matter."

As to diet, for the first two months of life the baby was on the breast, and after that Nestlé's milk was given exclusively. Since recovery from the attack of December last nothing has been given in the way of food except albumen water. No patent foods have been used in bringing up the infant.

On admission, the right eye was completely closed by the pressure of the lower lid, which was enormously distended with blood. The swollen parts were almost chocolate-brown in colour. A recent puncture, exuding a little blood, was present at about the junction of the outer

third with the inner two-thirds of the lower lid. The upper eyelid was not swollen, and exhibited merely a few insignificant patches of cutaneous ecchymosis. The eyeball was not protruded. The cornea was clear. Temperature, 99° F. The child had some colour in her cheeks, and although somewhat wasted (weight, 11 lb. 6 oz.) yet looked tolerably well. No tenderness on handling. No swellings about legs or arms. There were no teeth, and the gums were in excellent condition.

A provisional diagnosis of infantile scurvy was made, and the child admitted as an in-patient. She was placed on equal parts of "raw" milk and water. One teaspoonful of raw meat juice was given every

Hæmatoma of the lower lid.

three hours, alternating with a similar quantity of orange juice. The affected eyelid was treated with compresses of hydrogen peroxide.

The improvement in the state of the eyelid was striking. Already when the picture was made, two days after admission, the condition was less marked, and the puncture mentioned above was healed. A couple of days later the baby could open the eye somewhat, and seven days after admission the eye could be widely opened, and the lower lid, although blood-stained like a "black-eye," was not swollen. In fact, in the course of a single week under anti-scorbutic diet changes had taken place that in ordinary cases would have been spread over three weeks or a month.

The infant's general health, unfortunately, did not improve *pari passu* with the local condition. It is true that during the week's stay in hospital the child gained 3 oz. in weight. But on January 8, the day after admission, the pulse was 172 per minute, and the temperature 102·8° F. Since then the temperature did not fall below 101·4° F., and was generally between 103° F. and 104° F., without any definite cause having been found to account for it. The stools, which have numbered from three to seven a day, were found to contain blood on January 12 and 13. On January 14 the urine contained a trace of blood.

On January 16 signs of meningitis developed, and the child died on January 18.

Comments.—The foregoing, I think, can only be regarded as an instance of infantile scurvy, with unusual ocular manifestations. Apart from the difficulty of accounting for a non-traumatic hæmatoma in so young a child on any other view, there is a certain amount of evidence in support of the suggestion: (1) The extraordinarily rapid subsidence of the effused blood under an anti-scorbutic diet, and (2) the discovery of blood in (*a*) the stools and (*b*) the urine. On the other hand, the classic signs of infantile scurvy were conspicuous by their absence. The case is further peculiar in that the ocular manifestations preceded any other signs of scorbutus. For example, melæna did not develop until after nine days and blood in the urine until eleven days after the eye signs. The case recalls one reported by W. T. Holmes Spicer [1] in an infant of 7 months, who was brought because the right upper eyelid was tensely swollen and blood-stained. There were no other manifestations of infantile scurvy. Rapid improvement took place when once the child was placed on suitable diet, together with cod-liver oil. A case analogous with my own has been placed on record by K. Steindorff [2] in a child aged 7 months, whose left upper eyelid was greatly distended by blood and of a bluish-red colour. Lesions of the gums were present. The child's body was exquisitely tender when touched. Traces of blood were found in the urine. One small conjunctival ecchymosis was present, but there were no retinal changes.

[1] *Trans. Ophthal. Soc. U.K.*, 1892, xii, p. 33.

[2] *Zeitschr. f. Augenheilk.*, 1911, xxv, p. 180.

DISCUSSION.

Mr. STEPHENSON exhibited a water-colour drawing of the condition of the lower lid, made two days after admission to hospital, and a photograph of the lids. He said that though only two days elapsed between the two representations, there was a clear indication of the progress made in absorption of the blood under the anti-scorbutic diet given.

The PRESIDENT asked whether a post-mortem examination was made.

Dr. F. PARKES WEBER thought the facts were suggestive of this being a case of pneumococcal sepsis, if pneumococci had been found in the meninges. Such a supposition would account for the hæmorrhages observed during life and the other symptoms. The case would be one of pneumococcal sepsis, with multiple hæmorrhages.

Mr. STEPHENSON replied that a post-mortem examination was made and he would supply the notes. Meningitis was found, affecting chiefly the convexity of the brain; and there was a patch of consolidation at the base of each lung, and some curious changes in the intestine, in the nature of ulceration. There was no suprarenal disease, and there were no other hæmorrhages that he was aware of. In the meninges the pneumococci were in pure culture but they could not be found in the lung. From his own point of view the eye was the region of particular interest. It was very striking that a large hæmatoma of the lower lid, which in the ordinary way would have taken weeks to absorb, was practically gone in one week under the special diet.

Post-mortem Notes. — External appearance, wasted; thin line of ecchymosis on lower lid (right); no swelling of lid. Pharynx, larynx and thorax normal. Pleuræ normal. Lungs: Consolidation of parts of both bases, more extensive on right side. Thymus not enlarged. Bronchial glands enlarged. Pericardium: Slight excess of clear fluid, no signs of pericarditis. Heart normal; weight 1 oz. Abdomen: Liver large and pale; weight 1 lb.; fatty; no free fluid in peritoneal cavity. Intestines: One or two slightly inflamed patches on mucous membrane of small intestine; no hæmorrhages anywhere. Spleen soft; weight ½ oz. Stomach normal, no hæmorrhages. Kidneys: No congestion; normal; weight 1½ oz. each. Brain: Whole surface of vertex and base covered with greenish-yellow pus, most marked over both frontal lobes; excess of turbid fluid at the base of brain; convolutions flattened; sections not made; films show presence of pneumococci; spinal cord not examined. Parietal and frontal bones very thin and transparent. No other abnormality noticed about the bony tissues. No evidence of rickets or congenital syphilis.

Case of Polio-encephalitis Inferior; Oculo-motor Type.

By Sydney Stephenson, C.M., and Sydney A. Owen, M.D.

C. N., aged 8 years, attended the Eye Department of the Queen's Hospital for Children for the first time on January 14, 1915.

History.—(*a*) Personal: The child went to bed, apparently in her usual health, on the night of January 10-11 last, and next morning the "eye was turned." She then complained of some pain over the right brow. Child always subject to headache, but no increase since onset of present illness. No vomiting. Never had any previous illness of a similar nature. Had always been a bright child: is in Standard II at school. Bowels regular and appetite good. (*b*) Family history: The patient is one of a family of six children, the other members of which are healthy. None has died; no miscarriages.

Note by Sydney Stephenson (January 14, 1915).—Child appears to be in good health. No obvious signs of syphilis. There is slight ptosis of the right eye, which is deviated outwards and somewhat upwards. There is a defect in the downward and inward excursions of the eye. The secondary deviation is outwards and a little downwards. Diplopia is crossed, and the false image (i.e., that belonging to the affected eye) lies at a lower level than the true, and its upper end is inclined outwards. The signs therefore indicate a paresis of the inferior rectus muscle of the right eye. The right pupil measures 6·5 mm., and the left 5 mm. The latter responds to light with tolerable alacrity, but the former is sluggish in that respect. R.V., $\frac{5}{12}$ (two letters); L.V., $\frac{5}{5}$. No optic neuritis.

Note by Sydney A. Owen (January 15, 1915).—A well-nourished child of healthy appearance. Temperature, 100·4° F. (mouth). No pain now nor localised tenderness. Heart, lungs, and abdomen natural. There are no signs in the nervous system except those detailed above. There is no evidence of a contralateral hemiplegia (Weber type), nor of syphilis (meningo-vascularis), nor of tuberculous meningitis, nor of tumour, nor of diphtheritic paralysis, nor or of myasthenia gravis. I tentatively suggest polio-encephalitis inferior as the diagnosis.

Progress.—Eleven days after onset of symptoms (January 21, 1915): Ocular condition as noted, except that (*a*) right pupil now reacts better to light than it did, and (*b*) the ptosis is not so marked as it was a week ago.

DISCUSSION.

Mr. STEPHENSON said that when he saw the case on January 14 she had signs of paresis of the inferior rectus of the right eye, and of those branches of the third which serve the levator palpebræ and the sphincter of the pupil. There were no other signs, and his colleague, Dr. Owen, had failed to discover any. He suggested that the most likely explanation of such a case was polio-encephalitis, affecting the nuclei. He knew the proposition was one which could be neither proved nor disproved, but he had seen a considerable number of cases of this type in which one or other eye muscles had been affected in a paralytic sense, and he did not know of any other way of accounting for the condition. The suggestion was at least reasonable.

Dr. LANGMEAD said he happened to have a very similar case under his care. The boy, aged 9 years, went to bed perfectly well one evening, and next morning was noticed by his mother to have a squint. When examined he was found to have a complete third nerve paralysis; but no other abnormality. Pending any other explanation, he thought that polio-encephalitis was the probable diagnosis.

Dr. ROBERT HUTCHISON thought it a somewhat "tall" diagnosis to invoke polio-encephalitis in this case. One might almost as well invoke that disease to account for Bell's palsy. He did not see why, in this case, there should not have been a lesion of the nerves—which might have been called rheumatic, just as some spoke of Bell's palsy as a perineuritis, perhaps rheumatic—and such cases were not uncommon in both children and adults, in which in a night one nerve became paralysed. Some of them cleared up entirely, and that fact was against the cause being polio-encephalitis; moreover, he did not see why that disease should pick out those particular nerves alone, without producing general constitutional symptoms. He preferred to regard the case as a lesion of some kind of the peripheral part of the nerve alone, though he was not prepared to hazard a guess as to what the nature of the lesion might be.

Dr. POYNTON thought Dr. Hutchison's remarks were very much to the point. The difficulty was that some of these cases showed so few cerebral symptoms and one knew what grave symptoms followed poliomyelitis in the cervical cord. He, curiously enough, had a boy with severe cerebral symptoms, which came on suddenly, who had now partial paralysis of the intrinsic muscles of the eye, with that tremor which had attracted so much attention of late as being associated with damage to the red nucleus. Members knew the relation of the third nerve to the red nucleus. That case seemed to support Mr. Stephenson's view, that there was in his case a local polio-encephalitis picking out the third nucleus in part, and also the region of the red nucleus. One saw cases of anterior poliomyelitis in which scarcely any history could be obtained, and he supposed it was just possible that a similar event might happen in a cerebral nucleus without grave cerebral disturbance.

Dr. J. D. ROLLESTON desired to support Mr. Stephenson's view. Acute polio-encephalitis was an acute infectious disease, and, like other acute diseases of the kind, showed abortive forms, and he regarded the present case as one in point.

Mr. STEPHENSON, in reply, said he did not know whether the fact that three distinct branches of the third nerve had been affected would militate against Dr. Hutchison's view that the condition was peripheral. He had been for many years familiar with cases in which children had been brought to him because of squint, nearly always with paralysis affecting the external rectus on one side. In a number of cases there were cerebral and other manifestations; headache, several days of drowsiness and convulsions were common. In one case there was paralysis of a leg. Then he gradually became aware of another group of cases presenting similar eye symptoms, without general symptoms; and that caused him to try to make a definite type of what he had ventured to call "polio-encephalitis of the oculo-motor type." He admitted that his ground for the diagnosis was not secure, and that was his reason for bringing the case to the Section, to hear maturer and more experienced opinions.

Infantile Paralysis, with Exaggerated Knee-jerk.

By SHEFFIELD NEAVE, M.R.C.P.

A. L., A BOY, aged 2 years, was brought to the Queen's Hospital for Children on October 5, 1914, three and a half months ago, with the history that a week previously he had had something the matter with him and was put to bed, and on getting up the leg was found to be paralysed. When he saw the child the knee-jerk was considerably exaggerated on both sides, with a good extensor response, and a rather flabby paralysis of the right leg. He did not think it poliomyelitis at the time, at all events of the cells of the anterior horns of the cord. Later, the calf was found to be much wasted, coldness developed in the leg, there was deficiency of response to electrical stimuli, the flabby paralysis persisted, and there were practically all the signs of poliomyelitis, with the exception of the exaggerated knee-jerk, which latter had gradually decreased. The pathology of the condition presented some difficulties to him, and he showed the case in the hope of hearing them cleared up. He supposed there were circumscribed areas of disease, a vascular infiltration among and around patches of the cells

of the anterior horns, leaving enough sound for the knee-jerk, but that meant a less diffused area than usual in this disease in children. He had never seen a case before in which the muscles were so wasted, with an exaggerated knee-jerk.

Dr. LANGMEAD thought that an increased knee-jerk was not at all uncommon. He had under observation a case such as Dr. Neave described. There were a definite history suggestive of poliomyelitis, lower motor paralysis in one leg, and in the other wasting and the features of poliomyelitis plus increased knee-jerk. The case had gone on as a typical poliomyelitis, but the increased knee-jerk remained.

Congenital Heart Disease and Ulcerative Sore Throat.

By J. D. ROLLESTON, M.D.

A MALE infant, aged 11 months, was admitted to hospital on December 6, 1914, certified to be suffering from diphtheria, on the eleventh day of disease. The father had always been healthy, but the mother had been an in-patient at the Brompton Hospital on several occasions for rheumatism with cardiac complications. The child had always been delicate and blue from birth. Clubbing of the fingers had been noticed since he was aged 2 months.

On admission the child appeared very ill. There were membranes on the tonsils, pillar, and uvula, and a profuse nasal discharge. The heart sounds were clear but rapid. There was a trace of albumin in the urine. A large dose of antitoxin was given on admission and on the following day. A few organisms resembling diphtheria bacilli were found in the cultures, but cocci were predominant.

On December 8 a loud systolic murmur was audible all over the precordium. There was marked ulceration of both tonsils. No Vincent's organisms were found in the throat smears. The ulceration gradually spread over the uvula and palate.

On December 13 stridor and a hoarse cough developed, and there was much difficulty in swallowing. The symptoms persisted and the general condition became worse until death took place from broncho-pneumonia on December 20. The heart showed the following anomalies:

(1) Transposition of the great arterial stems, the aorta arising from the infundibulum of the right ventricle, and the pulmonary artery from the left ventricle (fig. 2). The walls of the right ventricle are considerably

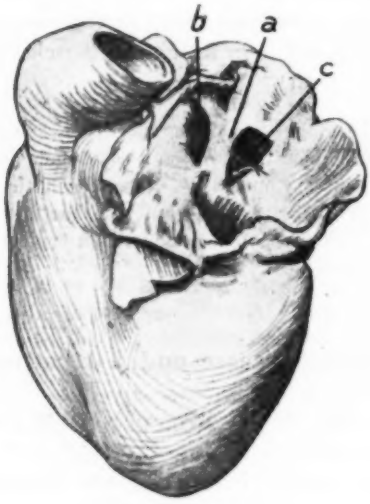

FIG. 1.

a, deficient interauricular septum ; *b*, foramen primum ; *c*, foramen ovale.

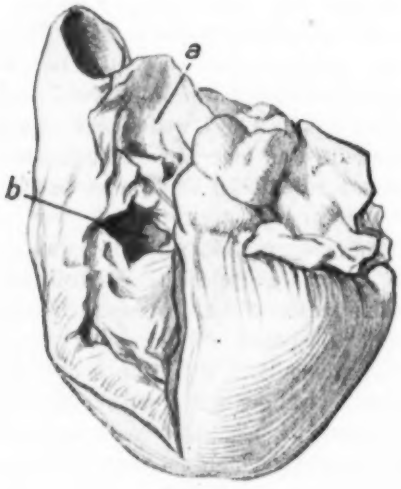

FIG. 2.

a, stenosed pulmonary artery ; *b*, interventricular foramen.

hypertrophied, being almost as thick as those of the left. Both ventricles enter into the formation of the apex.

(2) Marked deficiency of the interauricular septum, which is represented by a narrow band 1·5 cm. long by 0·5 cm. broad. The foramen primum lies anterior to it, and posteriorly there is a widely patent foramen ovale (fig. 1).

(3) An interventricular foramen, 1·2 cm. in diameter, in the "undefended space" (figs. 2 and 3).

(4) Stenosis and hypoplasia of the pulmonary artery, the valve of which has only two cusps (fig. 2).

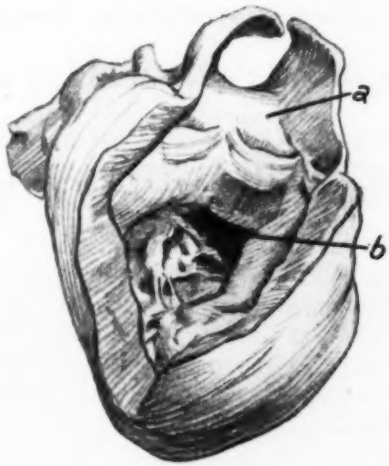

FIG. 3.

a, aorta arising from infundibulum of right ventricle; *b*, interventricular foramen.

The fauces and larynx showed ulceration of the tonsils, frænum epiglottidis, right arytæno-epiglottidean fold, and deep ulceration of the laryngeal portion of the pharynx on each side, especially on the left, exposing the muscular tissue and eroding the thyroid cartilage.

DISCUSSION.

Dr. ROLLESTON added that the only lesion diagnosed during life was pulmonary stenosis. The association of these defects was not common. Professor Keith, to whom he was much indebted for his elucidation of the specimen, said there was no exactly similar case in the Royal College of Surgeons

Museum, which contained the fine collection of Dr. Peacock, the author of the classical work on "Malformations of the Heart." The present case was no exception to the general rule that cases of congenital heart disease were very liable to succumb to acute infection. With regard to the nature of the infection in this case, it was not diphtheria, although there were a few organisms morphologically resembling diphtheria organisms. It seemed to be a case of what Americans called pseudo-diphtheria, or ulcerative sore throat. Of the latter condition he showed a specimen before the Section more than two years ago, but in that case the child died suddenly of profuse hæmorrhage from the throat.[1]

Dr. F. PARKES WEBER asked whether this child had had sudden attacks of cyanosis of a paroxysmal character. Such attacks were said to be a feature during the life of certain cases observed and investigated by G. Variot, of Paris.[2]

Dr. ROLLESTON replied that there were no such attacks as Dr. Weber suggested.

Suprarenal Hæmorrhage in an Infant.

By E. B. GUNSON, M.D.

A FEMALE infant, aged 6 days, was admitted to the Grove Hospital with the mother, who was suffering from puerperal fever. There was a slight inoffensive discharge from the umbilicus, the cord having separated. The child was fretful, but the temperature was normal. Two days after admission the temperature rose suddenly to 102° F., and cellulitis of the left forearm developed. On the following morning, the ninth day after birth, the temperature was 103° F., cellulitis of both arms was present, and there was a patchy erythema on the limbs and trunk. There was no purpura. The stools were frequent, loose, and offensive. The pulse was feeble, and the child was collapsed. Death occurred a few hours later, thirty hours after the onset of symptoms.

Post mortem: The umbilical vein was patent, and contained a brown fluid. The liver and spleen were dark and congested. The right suprarenal gland was black and greatly enlarged, being about two-thirds the size of the kidney. The capsule was intact. On section the glandular substance was found to have been converted into an almost

[1] *Proceedings*, 1912-13, vi (Child. Sect.), p. 42.

[2] Variot's and other cases were collected by J. Sébilleau, in his Paris thesis, "De la cyanose congénitale paroxystique," published by Vigot Frères, Paris, 1904.

black hæmorrhagic pulp. The left suprarenal was much smaller than the right, but definitely enlarged. The liver, the left suprarenal, and the right kidney, on microscopical examination, presented the appearances of an acute degeneration. The substance of the right suprarenal was largely destroyed, the medulla being more affected than the cortex. A Gram-stained preparation of the left suprarenal showed the presence, both in the cortex and medulla, of streptococci. A culture from the heart's blood gave a pure growth of streptococci; a mixed growth of streptococci, staphylococci, and small bacilli was obtained from the contents of the umbilical vein.

Purpura complicating Diphtheria.

By E. B. GUNSON, M.D.

A GIRL, aged 10 years, was admitted to hospital on the seventh day of the disease. Membrane was present on each tonsil, but three negative cultures were obtained. Sixteen thousand units of antitoxin were

Purpura complicating diphtheria.

administered intramuscularly on admission. An antitoxin rash appeared on the sixteenth day and became marked, involving especially the face and the extensor surfaces of the limbs, where it was circinate in type. On the eighteenth day purpura developed at the site of the antitoxin rash. The purpura persisted till death. Before death the purpuric patches on the cheeks and ears became confluent. Superficial ulceration occurred but there was very little loss of substance. Hæmorrhages occurred into the gums and an extensive subconjunctival hæmorrhage appeared in the right eye. There was old-standing constipation, the stools resulting from the administration of ol. ricini, ol. terebinth., āā 2 dr., each night, being very copious and markedly offensive for many days. Palatal palsy, carditis with "cardiac paralysis," arthritis and albuminuria all developed. There was an irregular pyrexia after the sixteenth day, persisting till death on the twenty-eighth day.

Post mortem: There was a small patch of pericarditis on the anterior aspect of the right ventricle, and an exudate of lymph was present at the base of the great vessels. The myocardium was cloudy. The mitral valve showed recent endocarditis. The lungs and solid viscera were congested. The alimentary tract presented several deeply congested areas in the mucosa of the ileum and cæcum, where some old fæcal masses were present. The lymph glands were generally enlarged but not caseous.

DISCUSSION.

Dr. GUNSON said, in connexion with the case of suprarenal hæmorrhage, he wished to emphasise the fact that organisms were demonstrated in the suprarenal, and cultures were obtained from the blood, because in the majority of cases supposed to be toxic, or due to septicæmia, the organism was not found. In regard to the second case, the child was aged 10 years, and developed an antitoxin rash in the ordinary course of events; two days later purpura appeared, and became more marked, and followed almost entirely the distribution of the antitoxin rash. As stated, the child developed cardiac complications, and died at the end of the fourth week. He attributed the purpura to the gastro-intestinal condition, for there was marked constipation and evidence of toxæmia.

Dr. LANGMEAD said the case of suprarenal hæmorrhage interested him much, because, having seen one or two cases himself, he had looked into the literature of the subject some time ago. He thought that cases of suprarenal hæmorrhage in children could be divided into three groups. There were (1) cases of stillbirth with hæmorrhage, (2) cases in which the hæmorrhage came on a short time after birth, and (3) cases in which suprarenal hæmor-

rhage occurred in children who were apparently in perfect health, and at ages of from about 5 to 8 years. In the last group death occurred in from twelve to twenty-four hours, or even less. Those of the first class seemed to result from mechanical causes, a view which was supported by the fact that the children were born more often by the breech than by the vertex, and in many of them great difficulty had been experienced in the delivery. The cases which occurred a few days after birth seemed to be due to many causes; a proportion of them probably by an infection, usually through the umbilicus, possibly also from other sources. Perhaps some of them were syphilitic. There was not much evidence as to what they were due, and he did not know of cultures having been made from the suprarenal gland of organisms which might have been causal. The third group was the most interesting. A typical example was as follows: A child, aged 8 years, went to school in the afternoon apparently in good health and played happily after her return. At about 9 o'clock that evening she felt ill and was feverish. The child was put to bed, and while undressing her the mother noticed a few spots (purpuric) on the body. Two hours later the child had a fit. Her mother took her out of bed, and noticing more spots on the body, took her to the hospital, but the child died a few minutes later, and before arrival. These were puzzling and dramatic cases, and no explanation had been forthcoming. A few were first recognised at St. Bartholomew's Hospital, at about the time of a small-pox epidemic, and it was thought that, possibly, they were due to malignant small-pox, in favour of which view was the fact that none of these children had been vaccinated. Others had been described since, apart from such epidemics, and among vaccinated children, so that this explanation was no longer tenable.

Dr. J. D. ROLLESTON said Dr. Gunson's second specimen seemed to be from a case of purpura fulminans of Henoch, not only because of its fulminating course, but from the almost complete absence of hæmorrhages from the mucous membranes and the organs after death. In this case he thought there had been some bleeding from the gums, but the mucous membrane hæmorrhages were very slight. He showed a photograph of a case of purpura fulminans which he and Dr. McCririck had brought to the Section some years ago.[1] It was sent to hospital as a case of hæmorrhagic diphtheria, but it was obviously purpura fulminans; there was a doubtful history of a preceding rash. Eighteen of the sixty-five cases of purpura fulminans had followed scarlet fever.[2] With regard to purpura occurring in convalescence from diphtheria, it was very different from hæmorrhagic diphtheria, which was essentially a malignant disease, and was very much rarer. Few cases of purpura occurring in convalescence from diphtheria had been reported,[3] and most of them had recovered. In one case, reported by Dr. Goodall, the purpuric eruption was in the distribution of the antitoxin rash.

[1] *Proceedings*, 1909-10, iii (Child. Sect.), p. 75.

[2] *Brit. Med. Journ.*, 1913, ii, p. 1302.

[3] Buckley, *Lancet*, 1901, ii, p. 132; Goodall, *ibid.*, p. 1492; Barlow, *Metropolitan Asylums Board Rep.*, 1901, Med. Suppl. p. 214.

Acute Atrophy of the Liver.

By J. Porter Parkinson, M.D.

The clinical history of the patient from whom these specimens were taken is as follows: A girl, aged 5½ years, had suffered from jaundice for five weeks. This began with vomiting and diarrhœa, which lasted three days. The urine was dark and the fæces pale. She had had no previous illnesses and the family history was good.

On admission on November 5 she was very jaundiced, well nourished. No mental symptoms. Temperature, 101° F.; pulse, 120. The heart and lungs were normal. The liver was enlarged and extended two fingers' breadth below the right costal margin. It was rather tender and hard. The liver enlarged still more till November 14, when it was noticed to be smaller, and by November 16 it could no longer be felt. By this date the child, whose mental state had previously been normal, became delirious and finally unconscious. She had wasted very noticeably. She died on November 17. The urine was about a pint daily, and contained bile pigment and acetone, but no albumin, leucin, or tyrosin.

At the necropsy the body was found markedly wasted. No purpuric spots on skin, but marked hypostasis. The heart and pericardium were normal, but the heart muscle was very flabby. Lungs, *nil*. No peritoneal fluid. Liver small, weight 1¼ lb., pale yellow, very friable. On section it contained yellow areas, between which were small dark red spots. Gall-bladder and ducts normal; culture from gall-bladder sterile. Spleen soft, with well-marked Malpighian bodies. Kidneys pale, with injected pyramids. Stomach and intestines normal. Microscopic section of liver shows general staining with bile pigment, the cells are distended with fat globules, but the nuclei are well marked. This fatty infiltration is most marked at the centre of the lobules, but extends to all the cells. There is no distension of the bile ducts and no actual necrosis of the cells. No micro-organisms were found in specially stained specimens.

For the pathological report I am indebted to Miss Richards, who is taking the place of our regular pathologist, now interned in Holland. The clinical history is strongly suggestive of acute atrophy of the liver, but the absence of a definite necrosis of the liver is unusual; it is possible that death occurred before that change in the liver took place.

DISCUSSION.

Dr. F. PARKES WEBER said he assumed that there was no clear evidence of congenital syphilis in the present case. Sometimes in adult patients there was an almost positive causal connexion between acute or subacute atrophy of the liver and acquired syphilis, as was evidenced in a case of his own, which was described in the Pathological Section some years ago.[1] Syphilis was always worth remembering as a possible cause of hepatic atrophy. In the acute or subacute atrophy of the liver, occasionally occurring in the secondary syphilitic period, the effect on the hepatic cells was, perhaps, only one of toxæmia, as the local presence of spirochætes in the liver of such cases had not been as yet demonstrated.

Dr. POYNTON said that, some years ago, he published an account of some cases of acute fatal atrophy of the liver, the pathology of which probably Dr. Langmead could remember more clearly than he could himself, as that gentleman investigated them. Those children had had epileptic attacks, and at first had been treated as cases of ordinary epilepsy; two got somewhat better when so treated. They then disappeared for two or three years, and came back as cases of jaundice, which ran a course much like the present case, with fever and signs of acute destruction of liver and rapid death. In those cases there were obvious signs of syphilis, and the histories confirmed that. The obvious signs were well-marked endarteritis obliterans, particularly in some of the vessels of the brain and heart, in addition to extraordinary atrophic changes in the liver. In another case of a child with epilepsy, he heard from the mother that the child had had syphilis. This child became yellow and ill, and after being treated briskly with mercurials he got better. Subsequently this patient came back in an extraordinary condition of mind, bordering on juvenile general paralysis, and his state seemed hopeless, but at about 15 years of age recovered, after years of steady treatment. He would be interested to hear whether Dr. Parkinson's patient showed changes suggestive of syphilis in other viscera.

Dr. PORTER PARKINSON, in reply, said that in the clinical history there was nothing suggestive of syphilis. The patient was the only child, but the parents had not been long married; they were described as healthy. There was no appearance of syphilis about the child, and a Wassermann reaction was not done. A general examination of the blood-vessels had not been made. The brain was examined, and that organ, with its vessels, was quite healthy. The liver vessels showed no particular change, and nothing seen in any of the viscera could be regarded as due to syphilis.

[1] F. P. Weber, "Acute Hepatic Atrophy in Early or Secondary Syphilis," *Proc. Roy. Soc. Med.*, 1909, ii (Path. Sect.), p. 113.

Persistent Pharyngeal Rudiment.

By F. J. Poynton, M.D., and T. T. Higgins, F.R.C.S.

The specimen shown was removed from a female baby, aged 5 months, which was brought up with the following history: For five weeks it had been noticed that the baby swallowed its milk with some difficulty, and had occasional fits of coughing, associated at times with dyspnœa. A movable lump had been noticed in the throat.

On examination, the baby was well nourished, and breathing comfortably. On depressing the tongue a pearly-white, rounded polypoid tumour appeared on the posterior wall of the pharynx. This was obviously very mobile, and appeared sometimes to descend from the posterior nares, sometimes to ascend from the lower part of the pharynx. Its attachment could not be demonstrated. Under ether anæsthesia the tumour was found lying in the nasopharynx. It was pear-shaped, and attached by a narrow fibrous stalk to the left lateral pharyngeal wall, exactly in the supratonsillar fossa. A ligature was applied to the base and the little growth excised.

Pathological Report by Dr. G. Robinson-Pirie.—A pear-shaped, fleshy mass, pale pink in colour, 1 in. long and ½ in. wide at its widest part. On section it showed a piece of cartilage in the substance of the tumour. The inner layer was cut with some difficulty. Microscopic examination: Normal skin on outside, showing compound epithelium, hair-follicles, and sebaceous glands, with considerable fibrous tissue in the subepithelial planes, as well as fat. The cartilage was slightly rolled up in the cutting.

Section for the Study of Disease in Children.

March 26, 1915.

Mr. Thomas H. Kellock, M.C., President of the Section, in the Chair.

Further Report on Case of Enlarged Liver in a Boy, aged 15 Years (shown at last Meeting).

Mr. Philip Turner, referring to the case of the boy, aged 15 years, shown by Dr. H. W. Barber and Mr. F. D. Saner,[1] at the last meeting of the Section, said that, a few days after the meeting, he was asked to perform an exploratory laparotomy, in order to decide what was the nature of the enlargement. The liver was normal, except that it was displaced to the left side by a very large growth arising in the suprarenal region.

Case of the Atonic Form of Cerebral Diplegia (Foerster).

By F. E. Batten, M.D., and W. H. von Wyss, M.D.

The child is aged 3 years. He is the first of two children, born as a breech presentation after version. He has been weak from birth. He has never been able to stand or walk. He can sit up and hold his head straight. There is a certain amount of kyphosis in the sitting position. He has difficulty in getting up because he cannot balance properly. Instead of lying down he drops down powerless according to gravity. He can move his arms and legs freely, but all his movements show a great deal of incoördination. There is marked hypotonia of the feet, which can be bent on to the tibiæ. There is hyperextension of the

[1] *Proceedings*, p. 43.

knee-joints, and a certain amount of hyperflexion of the hip-joints. There is a certain amount of flexor and adductor spasm. When suspended by the axillæ his legs are extended and found to be rigid. There is hypotonia of the different joints of the arms. When placed on his feet he cannot stand unsupported, and when he attempts to walk his legs perform incoördinate movements. The tendon reflexes are active. The abdominal reflexes show a marked overflow, so that the thigh muscles contract. The plantar reflexes give a flexor response. The muscles respond normally to galvanism and faradism. The cranial nerves show nothing abnormal. His intelligence is not bad, but he cannot talk properly, though he understands everything said to him. The Wassermann reaction both in blood and cerebrospinal fluid is negative, and the cerebrospinal fluid shows no chemical or cytological abnormalities.

DISCUSSION.

Dr. J. D. ROLLESTON said the case was one of four described in the March issue of the *British Journal of Children's Diseases*.[1] Apparently, the case resembled, in some ways, the myatonia congenita of Oppenheim. This particular case was interesting because Oppenheim himself saw it some time ago, and described it as myatonia congenita. Apparently the chief differences between the atonic form of cerebral diplegia and Oppenheim's disease consisted in the deep reflexes being normal in the atonic form, and the electrical reactions being normal as well.

Dr. FEARNSIDES agreed with the diagnosis in this case of the atonic form of cerebral diplegia and pointed out some of the more important clinical differences between the manifestations in this patient and in the patient whom he himself had shown at the meeting of the Neurological Section on February 25, 1915, as one of "? Amyotonia congenita"[2] concerning the diagnosis of which there had been some differences of opinion. Dr. Batten placed both patients amongst the cases of the atonic form of cerebral diplegia, but in Dr. Fearnsides' opinion the number of points in which the two patients differed rendered such a classification hardly justifiable.

Dr. VON WYSS replied that the case was not entirely typical of the disease, as there was much incoördination. Other instances did not show that feature to so great an extent.

[1] Batten and von Wyss, "The Atonic Form of Cerebral Diplegia," *Brit. Journ. Child. Dis.*, 1915, xii, p. 65.

[2] *Proceedings* (Neur. Sect.), p. 49.

Four Cases of Ichthyosis in a Family of Six Children.

By E. G. L. Goffe, M.D.

Henry, aged 10 years. Skin dry and scaly; he had scarlet fever in September, 1914.

Willie, aged 8 years. Skin smooth.

Kennett, aged 6 years. Skin dry and scaly; he had scarlet fever in September, 1914.

James, aged 3 years. Skin dry and scaly.

Charles, died at the age of 4½ months. Mother reports skin smooth.

Edith, aged 8 months. Dry, scaly scalp.

The mother reports that the dry, scaly condition of the skin began to show itself about two months after birth in each of the children affected.

I am informed that the father's skin is smooth, and that the father's only sister has a smooth skin.

The mother's skin is smooth. She informs me that her two sisters have smooth skin. One of the mother's brothers has a smooth skin; the other has a dry, scaly skin, she tells me. This brother has five children, and all of them have smooth skins, I am informed.

Two Cases of Ichthyosis in a Family of Five Children.

By E. G. L. Goffe, M.D.

The eldest child, Frank, aged 12 years. Skin dry and scaly.

Fred, aged 9 years. Skin smooth.

Lucy, aged 7 years. Skin dry and scaly.

Mabel, aged 5 years. Skin clear.

Alice, aged 4 years. Skin clear.

Ichthyosis associated with Long-standing Superficial Ulceration of the Tongue.

By J. L. Bunch, M.D.

The patient, a boy, aged 12 years, has generalised ichthyosis of the trunk, limbs, and face. This has been present since he was a baby. There is marked roughness and thickening of the skin, and hyperkeratosis of the palms. The boy has a chronic glossitis, with superficial ulceration, which has been present all his life, but varies somewhat in severity at different times. His mental capacity is somewhat deficient.

DISCUSSION.

Dr. Goffe stated that he had shown two other cases of the same disease, Nos. 18 and 19; they were members of a different family, a boy and girl in a family of five. In connexion with the first series shown (Nos. 2, 3, 4, 5) another member, Willie, was reported as having a smooth skin, but, as several members of the Section had pointed out, he had a rough condition of the skin of the back.

Dr. Bunch asked whether Dr. Goffe had read the literature concerning the heredity of ichthyosis. Though he had seen many cases of ichthyosis he, personally, had not seen more than two members of one family suffering from it. Dr. Goffe had told him that one of these children had had scarlet fever, and that during this illness the condition of the skin was much improved; but that after the child recovered from the scarlet fever the ichthyotic condition relapsed. He had gone into the history of the child he himself was showing. He had had measles, but not scarlet fever, and the mother thought the skin condition was improved during that illness. The boy had chronic glossitis with ulceration, but there seemed no reason to regard it as specific. The question whether ichthyosis could affect mucous membranes was an interesting one. He did not think it was generally recognised; and, as the President had pointed out, this was not the condition known as ichthyosis linguæ.

Dr. J. D. Rolleston asked whether in any cases in the series there were any signs of thyroid insufficiency. Several French authorities, including Vincent[1] and Weill[2] had drawn attention to the association of thyroid incompetence and ichthyosis; and an interesting fact was that these cases were

[1] *Bull. et mém. soc. méd. hôp. de Paris*, 1908, 3 sér., xxvi, p. 588.

[2] *Presse médicale*, 1909, xvii, p. 121.

sometimes benefited by the administration of thyroid extract. Did any of these cases show mental deficiency, or microsphygmia? Also, had they been treated with thyroid extract?

Dr. GOFFE replied that four of his cases were exceptionally bright, and he had not been able to determine any abnormal feature in the thyroids; there was no sign of a myxœdematous condition. Both Kennett and Henry had scarlet fever while in hospital, and in both the skin condition improved during the illness—i.e., on desquamation; but before leaving the hospital the roughness recurred. The little girl in the last two cases showed slight thyroid enlargement. Thyroid extract was tried on one of the cases while in hospital, but apparently with no definite result.

Dr. BUNCH replied that his case differed from those in Dr. Goffe's series, in that there was some degree of mental deficiency, and he was much lower in the school then he ought to be. During the last two or three weeks thyroid extract, ½ gr. three times a day, had been administered, and the mother's view was that since then the brain had been much more active. But he did not think that the drug had so far altered the skin condition much.

Case of Pulmonary Regurgitation.

By EDMUND CAUTLEY, M.D.

GIRL, aged 15 years, with a history of scarlet fever at the age of 9 years, when a heart affection was recognised. Last August, and again in December, she had some pain and swelling in the hands and ankles. On December 29 she took to bed, where she remained on account of shortness of breath, for which she was admitted to the Metropolitan Hospital on January 8, the pain having subsided a week previously. During her stay in hospital there has been no evidence of rheumatic fever, no fever, and no change in the cardiac signs. She is rather high-coloured, big, strong, and well developed. Her periods occur every two weeks.

Enlargement of the right ventricle is shown by percussion, cardiogram and skiagram. Over the pulmonary area there is a long, loud diastolic murmur; most marked over the third and fourth left interspaces near the sternum, and 2 in. to the left thereof, and then rapidly lost in all directions; sometimes heard faintly along the right edge of the sternum. There is no thrill. The pulse is rather small and has no "aortic" character, and varies from 68 to 100 per minute. A blood

count on February 12 yielded 5,270,000 red and 8,600 white cells. All the facts appear to support the diagnosis of simple pulmonary regurgitation, except that while the skiagram indicates displacement of the apex a little downwards and to the left as in aortic regurgitation there is no evidence of the hypertrophy usually associated with aortic regurgitation and such a loud murmur. Both the ætiology and prognosis of this case are of interest. Dr. H. H. Brown, of Ipswich, writes me that he has under his charge a schoolboy with pulmonary regurgitation who appears in good condition and health, is good at all sports, and won the competition for staying under water and collecting eggs a few years ago.

DISCUSSION.

Dr. F. PARKES WEBER thought the child had mitral stenosis. The apex beat was very thumping, both on auscultating and feeling it, almost typically that met with in mitral stenosis, although with his hand he could not detect any definite thrill. The question was whether the murmur in the present case was the first part of a long diastolic mitral murmur, of which the last part was not at the present moment heard, or whether there was also pulmonary regurgitation, in which alternative the murmur might represent a "safety-valve" escape. From the *clinical point of view*, he regarded the case as one of mitral stenosis. In speaking of the murmur in the present case he had at first wrongly termed it a so-called "Flint's murmur," which was the murmur sometimes heard in cases of aortic regurgitation, simulating the presence of organic mitral obstruction.

Dr. RUSSELL WELLS said he had heard murmurs in cases similar to this on more than one occasion, and at present one of the patients attending his out-patient department at the Heart Hospital had a pulmonary diastolic murmur and no other; while another had a pulmonary diastolic murmur and other murmurs also. The latter of these was of some interest. When he first saw her, about six years ago, she had a pure diastolic murmur, audible over the pulmonary area. And he made a note in the book, "? Is this a case of pulmonary regurgitation?" Careful examination revealed no signs of aortic regurgitation. Not infrequently an aortic diastolic murmur was heard better over the pulmonary area than over the so-called aortic area. But this was not a case of aortic regurgitation. He thought it might be pulmonary regurgitation, and watched the case carefully, having the girl brought up at intervals. In course of time a definite presystolic murmur appeared at the apex, the pulmonary murmur being sometimes present, sometimes absent. During the time she has been under observation the case has steadily developed, the presystolic murmur has disappeared, and now she has a diastolic murmur over the pulmonary area, a systolic murmur, and a faint early

diastolic over the apex, with the pulse and all the electro-cardiographic signs of auricular fibrillation. The question arose whether the present case was similar to the one he had just described, in which, ultimately, it became obvious that one was dealing with mitral stenosis? Or was it pure pulmonary regurgitation? What accounted for the diastolic murmurs heard in cases of mitral regurgitation? He thought the murmur was produced by regurgitation through the pulmonary orifice. In mitral stenosis there was a damming back of the blood into the left auricle, and so on to the venous side of the pulmonary circuit, and there was probably increased pressure on the pulmonary arterial side. The pulmonary artery was an extremely distensile vessel; the ring was lax, and one could easily understand how in exceptional cases the pulmonary arterial valves might become incompetent through back pressure, conceivably before the force of the left auricle was sufficiently great to produce a marked presystolic murmur. That enabled one to understand why there should be a pulmonary diastolic murmur at a later stage, and a presystolic murmur as in his own case. Dr. Weber's alternative suggestion was that the murmur in the present case was produced at the mitral valve, but his own view was that with mitral stenosis the safety-valve action was the more probable explanation. He had another case, which he had watched for three years, in which there had been a murmur just as in the present case, over the pulmonary area, diastolic in time, and pulmonary in extent. In the light afforded by the first case he thought at first that mitral symptoms would supervene, but they had not done so. He was convinced that Dr. Cautley's case was due to pulmonary regurgitation; but he should not like to say whether there was concomitant mitral stenosis or not; there was no marked thrill or murmur at the present time, though it was true that the apex beat was forcible. The case should be watched, to see if signs of mitral stenosis developed later. The members should feel indebted to Dr. Cautley for bringing the case forward, especially as cases with pulmonary diastolic murmurs were distinctly rare.

Dr. CHARLES W. CHAPMAN said his experience coincided with that of Dr. Russell Wells; he did not doubt this was such a case as Dr. Cautley had described. He thought he heard a different murmur over the aortic area, but in that connexion he wished to repeat the complaint he had voiced more than once, that for heart cases there should be a very quiet room set apart; it was impossible to be sure of delicate sounds in a room occupied by crying children.

Dr. ERIC PRITCHARD said he agreed with Dr. Cautley's diagnosis. He did not think the murmur in this case could be at the mitral orifice. If there was no leakage at the pulmonary valve, why should there be no pulmonary second sound? And the latter fact proved that the leakage was extensive and therefore probably the real cause of the trouble. If it were early mitral stenosis, there would be an accentuated pulmonary second sound, not an extensive leakage of this kind.

Dr. REGINALD MILLER said he knew Dr. Cautley would expect some scepticism as to the diagnosis of the case; and he would like to ask why the murmur was so loudly heard in the carotid arteries if this was a case of pulmonary regurgitation and the murmur was a pulmonary diastolic?

Dr. G. A. SUTHERLAND said there was a very well marked diastolic murmur heard at the base of the heart. Was that due to a congenital or to an acquired lesion? Dr. Cautley did not give an opinion on that. When a pulmonary murmur occurred alone, as in this case, one's first assumption would be that it was congenital. But in this patient there was evidence of the occurrence of rheumatism, which made it probable that the lesion was acquired. With regard to the murmur, he was not familiar with this so-called pulmonary regurgitant murmur; and he thought it must be distinctly rare. The suggestion had been made in the discussion that it might have arisen from mitral stenosis. In answer to that, he would say that mitral stenosis with great enlargement of the right ventricle was common, but a pulmonary regurgitant murmur was very rare. The latter should be much more commonly met with if that idea was correct. Dr. Cautley had said there was no evidence of the hypertrophy usually associated with aortic regurgitation and such a loud murmur; but on examining the heart his (Dr. Sutherland's) impression was that the cardiac apex was distinctly extended outwards towards the left side. He thought there was some dilatation of the heart, but not much hypertrophy. He did not see why there should be hypertrophy merely because there was a very loud murmur. In fact, probably the smaller the amount of regurgitation the louder would be the murmur. With regard to the nature of the lesion, he thought it was a case of aortic regurgitation, probably due to rheumatic infection of the valve. The murmur differed from the ordinary one, in that it was conducted upwards and on both sides, but did not appear to be conducted so well downwards. It seemed to have the characteristic qualities of an aortic murmur.

Dr. CAUTLEY, in reply, said he had had the patient under his observation in hospital six or seven weeks, so that the conclusion he arrived at was not a hurried one. The chief questions were as to whether there was aortic regurgitation, or whether it was a case of mitral stenosis with secondary pulmonary regurgitation. The history was somewhat indefinite. All he could say was, that this murmur, or some cardiac murmur, was recognised at the age of 9 years, when the child had scarlet fever. There was no reliable evidence that she had had rheumatic fever, nor was there any family history of that disease. The history of pains in hands and arms did not count for much. He was unable to conceive that a patient could have pulmonary regurgitation of such extent due merely to mitral stenosis. He had seen numerous cases of mitral stenosis, but he did not see pulmonary regurgitation at all frequently. If this child had got mitral stenosis inducing a murmur as loud as in this case one would have expected a well-marked thrill, but a thrill had never been noted. One would also have expected the pulse-rate to have been more frequent than

it was; normally here it was only 68 to 70, though under excitement it mounted to 100. The pulmonary second sound was not accentuated. And a mitral stenosis which was going to end in the production of so much pulmonary regurgitation would certainly cause some pulmonary stasis, and the child would be subject to bronchial attacks; yet, while the child had been under observation there had never been a sign of anything wrong with the lungs. Moreover, the size of the heart was scarcely that of a case of mitral stenosis. Though there was some hypertrophy of the right side of this heart, it was not much, and what did exist was easily explicable by the fact that there was some increased resistance in the pulmonary circulation, but not as much as would be induced by mitral stenosis. As this resistance was slight, there was, necessarily, very little occasion for muscular hypertrophy in order to propel the blood onwards. Another point strongly against the mitral stenosis view was, that this girl was big and healthy; and his experience had been that mitral stenosis occurring in early life interfered with development. With regard to the diagnosis of aortic regurgitation, when he first examined the child he naturally assumed that was the lesion, and it was only after very careful investigation that he concluded this diagnosis was wrong. There was no capillary pulsation, and he could not hear a murmur in the main arteries of the limbs. And, in his view, the pulse was by no means characteristic. He had seen one other case of pulmonary regurgitation, and that he had been able to verify, and had shown the heart before the Society for the Study of Disease in Children.[1] The girl was of the same age as this patient, and died from infective endocarditis, having been under his care on and off for five months, with a murmur identical in character and distribution with that in the present patient. In the fatal case there was a history suggesting primary pulmonary stenosis.

Ectromelus with Absence of Pectoral Muscles on the Right Side.[2]

By EDMUND CAUTLEY, M.D.

FEMALE, aged 1 year. The metacarpal bones and phalanges of the right hand are absent, together with the pectoral muscles on the same side.

Dr. CAUTLEY said that the child's parents were healthy, as far as he knew, and there was no history of deformity in the family. She was the first born.

[1] *Rept. Soc. for Study of Dis. in Child.*, 1901-02, ii, pp. 45-52.

[2] Ectromelus (ἔκτρωμα, from ἐκτιτράσκω, to abort or miscarry; μέλος, a limb) — a monstrosity in which the limbs are nearly or altogether deficient from an arrest of development, as distinguished from spontaneous amputation.

There were dimples showing where the fingers ought to come. In addition to complete absence of the pectoral muscles on the right side there was, apparently, absence of the sternal ends of the second, third, fourth, and fifth ribs. Such cases were more frequent in boys than in girls, and more common on the left side than on the right, so that this was a less usual type of case. As a rule, the pectoralis minor and the sternal portion only of the pectoralis major were absent. The deformed stump fitted exactly into the groove due to the absence of the ribs.

Deformity and Wasting of the Hands with Deformity of the Feet.

By Edmund Cautley, M.D.

Girl, aged 7 years, a patient at the Belgrave Hospital for four years. During 1911 she attended for styes, enlarged tonsils, general bronchitis, and occasional enuresis nocturna. In November her feet were encased in plaster for extreme flat foot. In February, 1912, special boots, stiffened on the inner side, were prescribed. Tonsils and adenoids were removed in January, 1913, and the cervical glands were enlarged during the next two months. New boots were ordered in August, 1913, and about this time impairment at the right apex was noted. Recently she has been at Herne Bay for six months for tuberculosis at both apices.

At present there is impairment of resonance at the apices, mostly on the right side, with signs indicative of enlarged glands in the mediastinum on that side, but none of active pulmonary disease. The hands show considerable wasting, ulnar deflection, contraction of the fourth and fifth fingers, and unusually long fingers, with a little clubbing of some of them—(?) a pulmonary osteo-arthropathy. Both feet show a little equinus: the left one is very flat, while the right shows extension of the proximal phalanges and flexion of the distal phalanges.

DISCUSSION.

The President asked whether Dr. Cautley considered that the deformity of the hands and feet (in his second case) was of congenital origin, or whether there had been some pathological process going on as well. The child had marked hammer-finger on both hands, which was probably always a congenital deformity, so that it would seem most likely that the rest of the condition of the feet and hands was also congenital.

Dr. F. PARKES WEBER said the hands in the case of the girl with deformity of the hands, &c., were very similar to those in a case of congenital deformity of hands which he showed before the Section[1] two sessions ago, at all events in regard to the presence of ulnar deflection of fingers, which was probably congenital in Dr. Cautley's case also. The clubbing of the fingers in Dr. Cautley's case seemed to be an independent occurrence, and was probably acquired. Dr. Cautley suggested that the child had a condition of pulmonary osteo-arthropathy. Every case of that condition had clubbing of the fingers, but very few cases of clubbing of the fingers showed real "pulmonary osteo-arthropathy," the presence of which could be at once detected by the thickening of the periosteum of the shafts of the phalanges, as seen in Röntgen skiagrams.[2] In the present case, however, the fingers, excepting the tips, were unusually thin, which made the presence of pulmonary osteo-arthropathy exceedingly improbable.

Dr. CAUTLEY replied that he queried the question of pulmonary osteo-arthropathy. He thought it likely that a large part of the condition, and certainly contracture of the little fingers, was congenital. The case had not been under his own care, but under that of the out-patient surgeons and physicians at the hospital for three and a half years, and it seemed that the child had been treated for extreme talipes valgus. Although the feet had been put up in plaster, and special boots were subsequently ordered, he thought it possible that the deformity of the foot on the right side depended on the treatment adopted; in other words, the boots had been worn too long on the right side, and were not of sufficient length. At any rate, the treatment had not cured the flat foot on the left side. The child had pulmonary symptoms, and that might have something to do with the shape of the hands. On the whole, he took the view of the President, that the hand condition was congenital. It was impossible to obtain a history from the mother.

[1] F. P. Weber, "A Slight Congenital Deformity of the Hands," *Proc. Roy. Soc. Med.* 1913, vi (Child. Sect.), p. 27. The illustration shows the partial flexion of the fingers at the metacarpo-phalangeal joints associated with slight ulnar deflection. The child was subsequently discovered to have an inherited syphilitic taint.

[2] *See* illustration, F. P. Weber, "The New Bone Formation in a Case of Pulmonary Hypertrophic Osteo-arthropathy," *Proc. Roy. Soc. Med.*, 1909, ii (Path. Sect.), p. 187, fig. 1.

Sclerodermia with Sclerodactylia of Antenatal Origin in an Infant.

By E. A. Cockayne, M.D.

F. M., male child, aged 1 year. First child of healthy parents; premature. The child was first seen five months ago, and found to have congenital hydrocephalus, and deformity of both ears. The hands showed marked sclerodactylia. The fingers were small, hyper-extended at the metacarpo-phalangeal joint and flexed at the inter-phalangeal joints. The feet had the same appearance. There was sclerodermia of the skin of the limbs, preventing complete extension of the wrists, elbows, and knees. Sclerodermia of the skin round the nose and mouth was also noticed. The skin condition in these areas has not changed since birth. A Wassermann reaction proved negative.

On February 9, 1915, the mother noticed that the skin on the outer sides of both thighs was very hard. This condition appeared suddenly and painlessly. There are large, symmetrical areas of thickened skin on the outer aspect of each thigh. The skin is not changed in colour, does not pit on pressure, and is not tender. The surface is slightly nodular. The skin over the abdomen was affected similarly, but to a much less degree. Since this was first noticed there has been no change.

Case of Inherited Syphilis with Wassermann Reactions.

By Reginald Miller, M.D.

Boy, aged 2 years, well nourished. First child, no miscarriages, full term, breast-fed.

Father: Infected December, 1911. Treated at Lock Hospital with mercury until April, 1912; then two doses of salvarsan. Wassermann reaction not tested, as he failed to report. In August, 1912, no fresh symptoms; he reported and was found to give a weakly positive reaction. He then received eight doses of mercury intramuscularly. In April, 1914, reaction negative.

Mother: No symptoms throughout. Conception about June 24, 1912.

Child: Born March 22, 1913. At the age of 5 weeks, epiphysitis of left elbow. Was treated with grey powder for seven weeks, combined with inunction (two weeks). Treatment then stopped for two months, owing to doubt in diagnosis. At the age of 5 months he developed scaly rash on buttocks. Was given antisyphilitic treatment, including inunction, from fifth to fifteenth months. None since.

Wassermann reactions of child and mother (full test): At 5 weeks, child and mother negative; at 5 months, child and mother positive; at 9 months, child and mother positive; at 11 months, child negative, mother (after salvarsan and mercury) negative; at 15 months, child and mother negative; at 23 months, child and mother negative.

Dr. REGINALD MILLER said that the father of the child had two doses of salvarsan within three months of the conception of the patient, and the baby did not escape the infection. The father's Wasserman reaction was not tested at that time, but six months later it gave a weakly positive reaction. He had had no fresh symptoms in the interval. He thought one might conclude that at the time of conception the father's blood was either negative or weakly positive. With regard to the diagnosis of inherited syphilis, when an attempt was made to diagnose that condition in babies by means of serum reactions, one usually found that the baby yielded a negative, but the mother a positive reaction; and that supplied a definite clue. In the present case the mother's reaction was negative at the same time. At Paddington Green Hospital there had been three other cases in which, at the time of the origin of the baby's symptoms the mother and baby gave negative serum reactions, but the mother's reaction became positive a few weeks afterwards, although no symptoms had shown themselves; and in a few weeks the baby's reaction became positive in the ordinary way. Therefore evidently a negative Wassermann reaction in the mother was no proof against the child having inherited syphilis. With regard to treatment, it had often been said that under mercurial treatment the Wassermann reaction in a baby did not become negative when once it had been positive. He did not know how that idea originated. It was curious to see how few babies that came under treatment for inherited syphilis remained under that treatment for any length of time. Of the cases he had so treated during the last five years, he could remember only two which remained under his observation for two years. In both those under administration of mercury by inunction and grey powder the positive reaction became negative and remained so.

Case of Chronic Polyarticular Arthritis commencing in a Child at the Age of 2 Years 4 Months.

By E. G. Fearnsides, M.D.

W. H., born December, 1911. Until April, 1914, the patient was a healthy child. He was breast-fed for twelve months, walked at the age of 11 months, and began to talk when aged 13 months. In April, 1914, he became ill in himself, and subject to attacks of sweating; shortly after this the small joints of his fingers swelled, his knees enlarged, and he became unable to walk.

He first came under my observation on August 28, 1914. At that time he was pale, flabby, wasted, and unable to use his hands, or to walk. There was considerable muscular wasting of the extremities, and great peri-articular swelling of the joints of the fingers, wrists, knees, and ankles, and apparently some enlargement of the bones. The lymphatic glands were not enlarged, and the spleen could not be felt. He sweated freely. The tonsils were not enlarged. No abnormal signs could be discovered in the heart, lungs, or abdomen, and the urine contained neither albumin nor pus.

Under treatment with massage and grey powder by the mouth he has continuously improved. By November, 1914, he was again able to walk. The anæmia gradually improved, and the peri-articular swelling of the knees, ankles, wrists, and fingers, gradually diminished. Skiagrams of the joints show no gross bony changes. The Wassermann reaction in the serum is negative.

At the present time a blood examination by Mr. Herbert Perkins gives: Red blood cells 5,450,000 per cubic millimetre, white blood cells 11,500 per cubic millimetre, hæmoglobin 64 per cent., colour index 0·8, with the differential count—polymorphonuclear cells 48·6 per cent., small lymphocytes 38·4 per cent., large mononuclear cells 10·4 per cent., transitional cells 1·2 per cent., eosinophiles 1·2 per cent., and mast cells 0·2 per cent.

Dr. Fearnsides said that although ten days ago, when he last saw the patient, no enlargement of the glands in the axillæ or groins could be detected, to-day the lymphatic glands in these situations were readily palpable, and between these dates the varicellar eruption which was now present had appeared.

Case of Pseudo-hypertrophic Muscular Dystrophy associated with Amentia.

By E. G. Fearnsides, M.D.

E. C. P., born April, 1905. The patient is a characteristic instance of pseudo-hypertrophic muscular dystrophy. He cannot sit up straight and cannot raise himself from the recumbent to the sitting posture without the aid of his hands. He stands unsteadily on a wide base and walks with a waddling gait. He cannot raise himself from a sitting to an erect posture. When held by the axillæ he slips through his shoulders. The muscles of the calves, the infraspinati, the outer parts of the lumbar mass of the erector spinæ, the lumbar attachments of the latissimus dorsi muscles, and the axillary portions of the serratus magnus muscles are symmetrically hypertrophied and defective in power. The pectoralis major, deltoid, biceps, triceps, the lower half of the trapezius and the glutei, vasti, and anterior tibial muscles on both sides are small and paretic. The rhomboids, supraspinati, and the distal muscles of the extremities are proportionately better developed. There is little lordosis. The grasps are feeble. The dorsi-flexors of the ankles are weak, but there is little talipes equinus. The muscles of the neck are fairly developed and those of the face unaffected. The abdominal muscles appear normal. The knee-jerks can just be obtained, and doubtful ankle-jerks are present. No plantar responses can be elicited. The abdominal reflexes are brisk. The fingers are long and tapering. The metatarsals are hyperextended and the phalanges of the toes distally flexed. The extremities are usually cold; they sweat freely and show cyanotic mottling of the skin. The cranial nerves are unaffected. Sensation and the action of the sphincters are normal. Vision is good, and the optic disks appear healthy. Hearing, smell, and taste are unaffected. He has never been subject to fits or other forms of seizure. The head is irregularly shaped and measures 20 in. in circumference, 13½ in. from nasion to inion, and the vertical bimeatal distance is 13 in. The right frontal bone is prominent and shows a curious bump surrounding a scar. The bridge of the nose, palate, and ears are well developed. He lolls with his tongue and constantly makes grimaces.

Mentally he is backward. He cannot read, does not know the

alphabet, and cannot state where he lives, his age, nor the ages of his brothers. He can only count up to four, and does not know how many twice two make. He does not know the value of money, and calls a sovereign a halfpenny. He can name and knows the uses of common objects. He is interested in pictures, and can name the objects which they depict. He is musical, and can whistle and sing.

As far as can be ascertained, there is no family history of myopathy. His father and mother are normal. The patient is the youngest of four children and the other three are healthy. He has always been backward in walking, and is so mentally. For a short time, some years ago, he attended school.

DISCUSSION.

Dr. FEARNSIDES said that he desired to call particular attention to the association of mental backwardness of severe degree and pseudo-hypertrophic muscular dystrophy. According to Oppenheim this association was not infrequent; but in this country he thought it must be rare, for among the forty cases the records of which he had recently looked up this association had not been noted. He also pointed out the unusual distribution of the pseudo-hypertrophy in this case. The hypertrophy of the calves and of the infra-spinati was usual, and that of the lower portions of the latissimus dorsi and of the lower portions of the erector spinæ muscles was not unusual, but what were the peculiar masses on the lateral aspects of the axillæ and chest wall? Were they hypertrophies in the serratus magnus muscles or were they not hypertrophies of any muscles? Personally, he thought that they were probably local hypertrophies of the serratus magnus muscles.

Mr. PHILIP TURNER agreed as to the presence of an interesting lump in the axilla, which he took to be the serratus magnus, though admittedly it came farther forward than was usual. But when traced backwards it seemed to originate from the scapula, so it could not very well be anything else than what he had stated.

Case of Pneumothorax.

By ERIC PRITCHARD, M.D.

E. D., AGED 12 years. Brought to hospital on March 4, 1915, for sudden breathlessness, with some cyanosis and pain in left side of chest. She had complained of the pain off and on for three weeks, but had been going to school until the day she came to hospital. No cough, and no previous illness. On examination nothing abnormal was found in the chest; the heart was slightly dilated, but otherwise in the normal position. Patient refused to remain, and was taken home. She continued to complain of the pain and was faint at times. Two days later she was admitted; temperature 100° F., pulse 104, respiration 28. Physical examination as before. She continued to complain at times of pain in the lower and posterior part of the left axilla, but was otherwise comfortable. On the fourth day the pain became severe, dyspnœa marked, colour pallid, temperature 103° F., respirations 64, and pulse 136. The heart's apex beat was in the fourth right space about 1 in. internal to the nipple line. The left side of the chest was immobile and distinctly full under the clavicle. The note was hyper-resonant, breath sounds scarcely audible, vocal resonance and vocal fremitus absent; coin sound obtained. In four days' time the respirations had come down to 28, and the pulse to 96, while the temperature varied from 100° F. to 101° F.; the patient was quite comfortable. The note at the left base behind became dull, otherwise there was very little change in the physical signs.

DISCUSSION.

Dr. PRITCHARD said that the case was more interesting a day or two previous to exhibition, when the classical symptoms of pneumothorax were present. The history was worth considering. Since the patient had been in hospital skiagrams had been taken. In the recumbent posture, at the level of the third rib there was a dark shadow, which looked like that cast by a foreign body, but it disappeared when the patient stood erect. Clearly that side of the chest was filling up with some fluid, which he thought must be pus. There was no splash such as would be heard in the case of ordinary serous fluid. He thought the dark mass seen when the patient was recumbent

must be due to a puddle of pus, and that it drained away when the patient was upright. At present the coin sound was not very good.[1]

Dr. CHARLES W. CHAPMAN suggested it was possible that a foreign body might be at the bottom of the trouble. In his student days a patient was admitted with a history of severe hæmoptysis for many months, and wasting, and the case was accordingly thought to be tubercular. But one day he had a bad coughing fit and coughed up three or four shot. He was a Frenchman employed at a wine merchant's, where his work was to wash out bottles with the aid of shot. He occasionally helped himself to some wine, and in the "push up" at the bottom of one of these bottles evidently some shot had become fixed and in swallowing wine these shot must have slipped down the trachea. Evidently the shot had been lying in his bronchus six months. After parting with them he got rapidly well.

Dr. F. LANGMEAD said that he thought that it would be agreed that pneumothorax was a somewhat rare event in a child. He could remember four cases of the condition, one of which, shown by Dr. Jewesbury before the Medical Society of London, recovered. The other three, which had come under his own observation, all died. In one case the pneumothorax had followed the use of an exploring needle which had been inserted over a dull area on the supposition that fluid was present. In the second case surgical emphysema also occurred and became almost general. The conditions were due to a breaking down tuberculous gland at the pulmonary root, which communicated with the bronchus in the one direction and with the mediastinum and pleura in the other. The third case was also due to a similar cause but was unaccompanied by surgical emphysema. All three cases originated in tuberculous lesions.

Dr. CHARLES W. CHAPMAN said he thought that in this case the chest should be tapped early, and the fluid searched for tubercle bacilli.

Hydrocephalus and Spina Bifida with Deformity of the Legs.

By PHILIP TURNER, M.S.

MR. PHILIP TURNER said the child was first seen by Dr. Rolleston, who sent him to the speaker. He was aged 2½ years, and had considerable spina bifida in the lumbo-sacral region, and hydrocephalus.

[1] An exploring needle has since been inserted but no fluid was detected. The nature of the shadow in the lower half of the left chest is still obscure—it is probably collapsed lung, retained in position by adhesions. The lung is now expanding, but the temperature still keeps up.—E. P., April 1, 1915.

The chief interest in the case was in the condition of the legs. The right leg showed a common state in spina bifida; there was marked talipes equino-varus, and the tibia itself was somewhat curved inwards. The left foot was in a condition of very marked talipes equino-varus, and the thigh was externally rotated to such an extent that the popliteal space was turned directly forwards. One could distinctly feel the condyles of the femur, so that the patella should be behind. But he could not feel the patella at all. On that side the tibia was still further rotated outwards. Another feature of the case was that the knee could not be flexed, though hyperextension was possible, as in genu recurvatum. The legs were not completely paralysed, but the patient could not move them very much. The child appeared to be intelligent, and vision was normal. There was incontinence of both urine and fæces. The skiagram revealed a number of interesting things. The spina bifida showed up extraordinarily well on the plate, and all the bones were present except the left patella. The long bones were unduly slender, and the epiphyses very large and their outline was indefinite. He was doubtful as to the presence of any pathological condition. On the left femur was an indication that there had been periostitis, especially at the upper extremity. He had not heard of the mother having been frightened before the birth of the child.

Note on Suppurative Parotitis following Pneumonia.

By J. Porter Parkinson, M.D.

H. O., a boy, aged 3 years, was admitted to the Queen's Hospital for Children on January 2, 1915. He had been ill for a week with fever and cough. He had always been a weakly child; had whooping-cough at the age of 4 months and pneumonia when aged 1 year. He is the elder of a family of two, with a healthy family history. On admission there were signs of resolving pneumonia in the upper lobe of the left lung, with harsh bronchial rustling at the base of the chest on the right side. The temperature only went up to 99·5° F., pulse 108, respiration 24. Heart, abdomen, and throat normal.

On January 7 the temperature mounted to 104° F. without any increase of the signs in the chest, but next morning there was a swelling in the right parotid region, hard and firm and tender; the next day the overlying skin was red and œdematous, but no fluctuation

was felt. On the following day, January 10, a deep incision below the lobe of the ear reached an abscess, and a small quantity of thick pus was removed. Films from this showed pneumococci and a few staphylococci. A tube was left in the wound, and the temperature, which had kept continuously about 103° F., fell to normal. Recovery was uneventful, and was practically complete when the child developed measles on January 23 and had to be removed to the infirmary.

I considered this case worthy of record on account of the rarity of parotitis following pneumonia and due to the pneumococcus. Apparently the infection travelled by the blood-stream, as there was no morbid appearance in the mouth and the child never coughed up sputum, so it is unlikely that the materies morbi travelled up the duct.